Pregnancy Risk Assessment Monitoring System

PRAMS Report 2001

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ACNOWLEDGEMENTS

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EXECUTIVE SUMMARY

This is a summary of selected results of the 2001 Michigan Pregnancy Risk Assessment Monitoring System (PRAMS). Due to methodological differences the 2001 Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) report covers only data called the second half of 2001. The survey described here was conducted with a random sample of women who had given birth to a live-born infant in Michigan between July 1 and December 31, 2001. The topics included in this questionnaire were selected based on their relevance to maternal and infant morbidity and mortality. Highlights of the findings of this report include:

- Approximately 41% (40.6%) of women who were surveyed indicated that their pregnancy was unintended
- Less than half of women who delivered a live-born infant (47.7%) reported using contraception prior to pregnancy, however, during the postpartum period contraception use increased to 83.1%
- Of the estimated 7.1% of infants who were considered low birth weight approximately three-quarters were born pre-term
- About 18% (18.4%) of women entered prenatal care after the first trimester of their pregnancy. Women who entered prenatal care late were more likely to be: twenty-one years old or less, non-Hispanic Blacks and Hispanics, and women who either had no insurance prior to pregnancy or who were Medicaid recipients prior to their pregnancy
- Of the women who delivered a live-born infant, 54.6% planned on breastfeeding their infant, however, after delivery, an estimated 63.5% of women actually breastfed their infant (for longer then a week)
- The majority of women did not drink during pregnancy. Almost 44% were non-drinkers, and 51.7% were drinkers who quit
- Approximately 80.2% of women did not smoke in the last three months of their pregnancy. Five percent (4.7%) of women who were non-smokers during their pregnancy began smoking postpartum.
- The majority of PRAMS respondents, (71.4%), reported placing their infants to sleep on their backs
- Less than five percent of women (4.1%) experienced abuse in the year prior to their pregnancy
- More than half of women (55.3%) were both aware of and received instruction from a health care professional regarding folic acid, however, only 36.2% of those women consumed a multivitamin daily
- An estimated 25,000 women were identified as WIC-eligible (39.5% of the number of estimated live births). Of these women, 76.7% participated in WIC during pregnancy, and 86.5% participated postpartum

INTRODUCTION

The Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing population-based survey of post-partum mothers who delivered live births in Michigan. PRAMS is part of a CDC initiative to reduce infant mortality and low birth weight and other adverse birth outcomes by providing information useful for developing, implementing, and evaluating maternal and infant health intervention programs. This data is used to monitor progress toward national and state pregnancy-related health objectives, including the increase of positive birth outcomes. PRAMS is also used to identify and monitor selected self-reported maternal behaviors and experiences that occur before, during, and after pregnancy among women who deliver live-born infants. The indicators in this report cover a variety of topics, including low birthweight, contraceptive use, pregnancy intention, health insurance, prenatal care, breastfeeding, alcohol and tobacco use, violence against women, folic acid awareness, and WIC participation.

From July to December 2001 approximately 1200 post-partum women were selected from a frame of eligible birth certificates to be surveyed. PRAMS is a combination mail/telephone survey. Women are contacted and surveyed initially via mail. If the woman does not respond to the original mailing, follow-ups included additional mailings and telephone contact.

In July 2001, Michigan renewed collaboration for the PRAMS project under the auspices of the Centers for Disease Control and Prevention (CDC). This resulted in data collection for the 2001 calendar year taking place under two different sampling methodologies. To facilitate interpretation of results and comparability with other CDC-PRAMS data, it was decided to present only the results from July to December 2001 in this report.

The body of the report provides graphical presentation of selected results. All results presented are weighted which provides estimates that are reflective of Michigan women who had a live birth in the second half of 2001 (see Appendix I for further information on weighting). Results are also presented along with demographic characteristic breakdowns in appended tables. The 95 % confidence intervals (CI) are included in the appended tables. PRAMS data are intended to be representative of women whose pregnancies resulted in a live birth. Therefore, caution should be used in generalizing the results to all pregnant women.

Maternal Demographics

Definition:

Information regarding maternal demographic characteristics was obtained from both birth certificate information and the PRAMS questionnaire. Maternal age, race/ethnicity, and marital status were obtained from the birth certificate. Information on pre-pregnancy insurance and income was obtained from the PRAMS questionnaire. Two questions regarding pre-pregnancy insurance status were asked to all respondents:

Question #1: Just before you got pregnant, did you have health insurance? (Do not count Medicaid)
_No
_Yes

and

Question #2: Just before you got pregnant, were you on Medicaid?
_No
_Yes

Women who answered 'Yes' to question #1 and 'No' to question #2 were classified as having private insurance prior to pregnancy. Women who answered 'Yes' to question #2 were classified as participating in Medicaid prior to pregnancy. Women who answered 'No' to both questions #1 and #2 were classified as having no insurance prior to pregnancy.

Results:

In Michigan over three quarters of women delivering in the second half of 2001 were between the ages of 20-34 years old (*Fig. #1*). Less than a quarter of women were of racial/ethnic minorities. Non-Hispanic Blacks (14.3%) were the most prevalent minority followed by Hispanics (5.3%), and Asian/Pacific Islanders (2.3%) (*Fig. #2*). Less than 1% of women delivering during that time span were either American Indian/Alaskan Native or other racial/ethnic minority. Only 19.1% of women had less than a high school education (*Fig. #3*). Compared to women of other educational levels, those with a high school diploma/GED represented a slight majority of women delivering in the second half of 2001. Almost three-quarters of women were identified as being married (*Fig. #4*). Regarding health insurance status prior to the birth of their new baby, 67.7% of women responded that they had private health coverage and 12.0% reported receiving Medicaid. The remaining 20.3% were classified as being 'uninsured' (*Fig. #5*).

Public Health Implications

Half of the women delivering live births in Michigan have a high school diploma or less. This underscores the need for all organizations serving women of childbearing age to tailor all outreach efforts and materials to a very basic literacy level. One in five women who delivered a live birth in 2001 did not have health insurance prior to becoming pregnant. Access to care remains a challenging issue, and methods need to be developed to identify and refer women as soon as possible in their pregnancies. Ten percent of women delivering live births in Michigan are under the age of twenty, and fifty-two percent of the women are in their twenties. Therefore every opportunity should be made to provide these women with tailored educational messages about the importance of pre-conceptual health.

Reference Table: #1

Maternal Demographics

Figure 1:

Prevalence of maternal age

Jul-Dec 2001 MI PRAMS

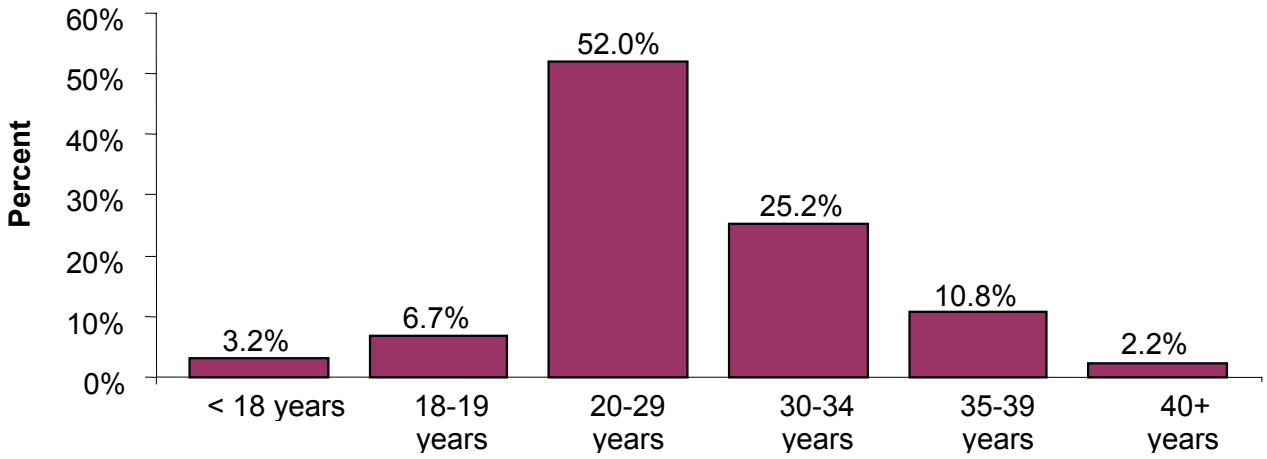
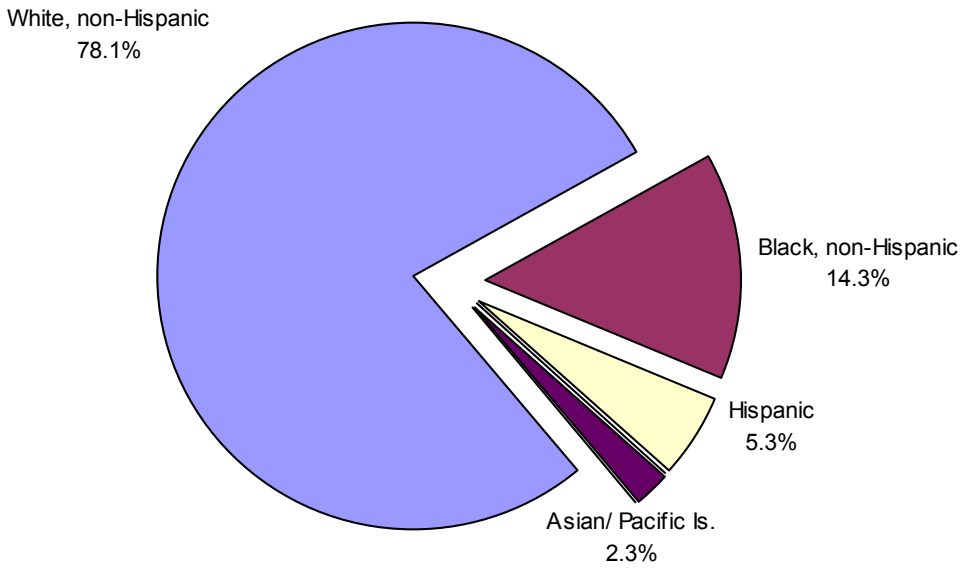


Figure 2:

Prevalence of maternal race/ethnicity

Jul-Dec 2001 MI PRAMS



Maternal Demographics

Figure 3:

Prevalence of maternal educational level,

Jul-Dec 2001 MI PRAMS

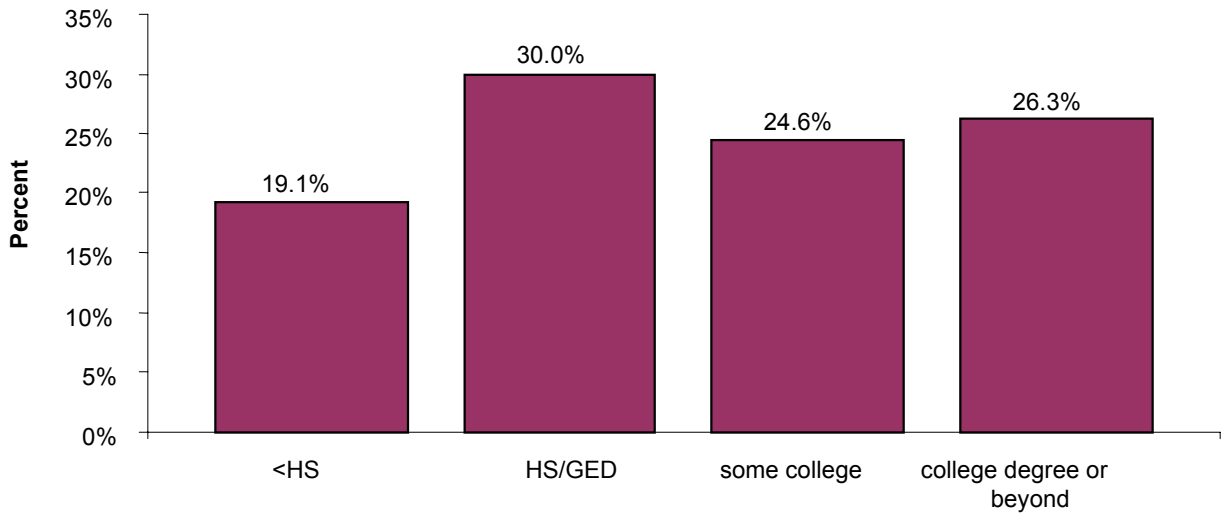
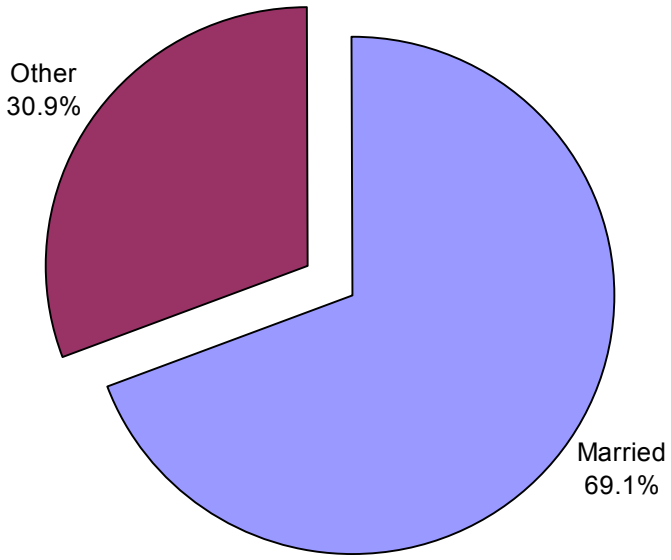


Figure 4:

Prevalence of marital status,

Jul-Dec 2001 MI PRAMS

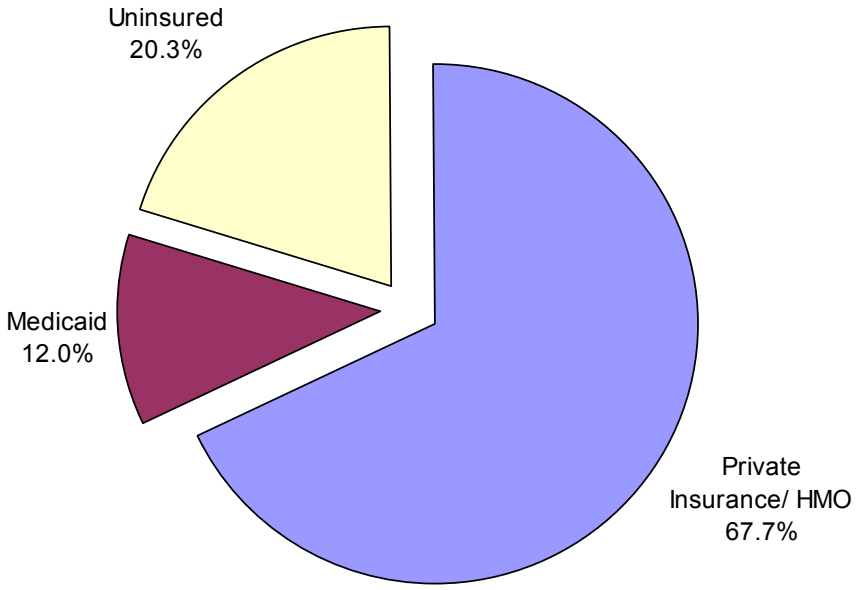


Maternal Demographics

Figure 5:

Prevalence of pre-pregnancy health insurance status,

Jul-Dec 2001 MI PRAMS



Unintended Pregnancy

Definition:

Information regarding pregnancy intention was derived from question #10:

> *Question #10: Thinking back to just before you got pregnant, how did you feel about becoming pregnant?*
> *_I wanted to be pregnant sooner*
> *_I wanted to be pregnant later*
> *_I wanted to be pregnant then*
> *_I didn't want to be pregnant then or at any time in the future*

An intended pregnancy was one in which the mother answered that she wanted to be pregnant then or sooner. Women who wanted to be pregnant later or not at all were classified as having an unintended pregnancy. Unintended pregnancy can be further subdivided into two categories: mistimed pregnancies or unwanted pregnancy. Mistimed pregnancies are those in which the mother wanted to be pregnant later than she became pregnant. Unwanted pregnancies were those in which the mother did not want to be pregnant then or in the future.

Results:

An estimated 38,111 women (59.4% of women who delivered in the second half of 2001) became pregnant intentionally (*Fig. #6*). The remaining 26,026 deliveries (40.6% of total) resulted from unintentional pregnancies. The prevalence of unintended pregnancies was inversely correlated with maternal age, education, and household income. Women who were less than 18 years old had an unintended pregnancy prevalence more than five times that of women over 40 years of age (87.3% vs. 16.6%, respectively) (*Fig. #7*). When stratified by race/ethnicity the prevalence of unintended pregnancies was higher than intended pregnancies among non-Hispanic Blacks (63.8%) and Hispanics (61.5%) (*Fig. #8*). The inverse relationship was observed for both non-Hispanic Whites and Asian/Pacific Islanders (35.7% and 41.7%, respectively). The percentage of unintended pregnancies was 64.3% among women with less than a high school education whereas for women with at least a college degree it was 24.8% (*Fig. #9*). The majority of births to women with private insurance prior to pregnancy were intended whereas for women with either Medicaid or no insurance the majority of births were unintended (*Fig. #10*). At the time they became pregnant, 45.4% of women who had an unintended pregnancy were not using a contraceptive method (*Fig. #11*). Among the remaining women who were using a contraceptive method, the methods frequently associated with contraceptive failure were condoms (34.4%), withdrawal (26.4%), and birth control pills (20.1%) (*Fig. #12*).

Public Health Implications:

Unintended pregnancies are highest among socio-economically vulnerable groups: women under the age of 20, uninsured, poor (Medicaid participation as a proxy), and racial/ethnic minorities. Fifty percent of women experiencing an unintended pregnancy indicated using a contraceptive method at the time they became pregnant. The most commonly reported contraceptive methods being used included condoms (34.4%), withdrawal (26.4%), birth control pills (20.1%), and other methods (10%). This suggests that women are not informed or misunderstand information regarding the proper use of effective methods to

prevent pregnancy; and that contraceptive services may not be available to the women who need them most.

Tailored family planning services to women who never gave birth, are unmarried or enrolled in Medicaid along with education on appropriate contraceptive use in post-partum are needed for the reduction of unwanted pregnancies. Improving family planning services to better meet the needs of all women of reproductive age is one of the public health priorities in Michigan.

Reference Tables: #2 - #5

Unintended Pregnancy

Figure 6:

Prevalence of intended and unintended pregnancies and types of unintended pregnancies, Jul-Dec 2001 MI PRAMS

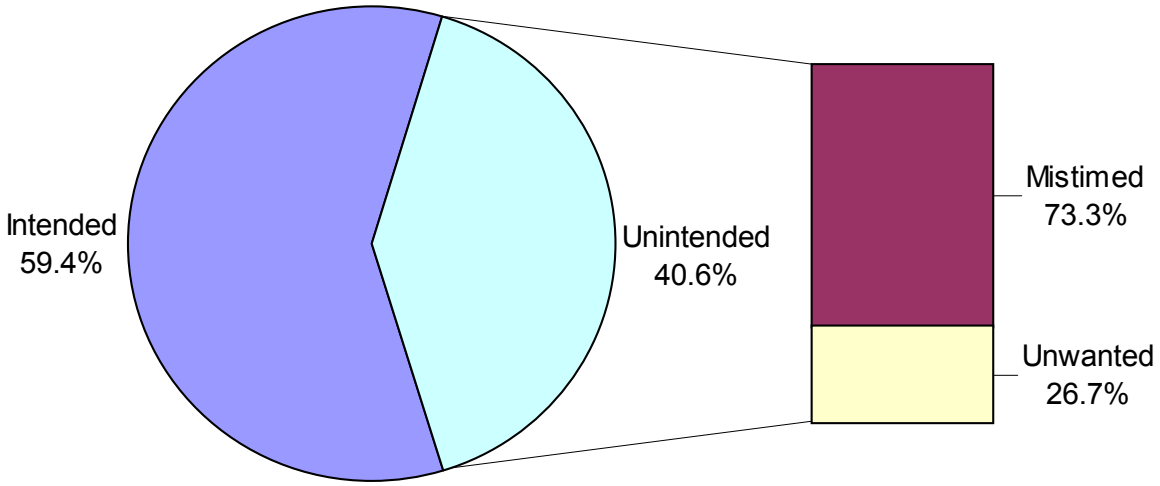
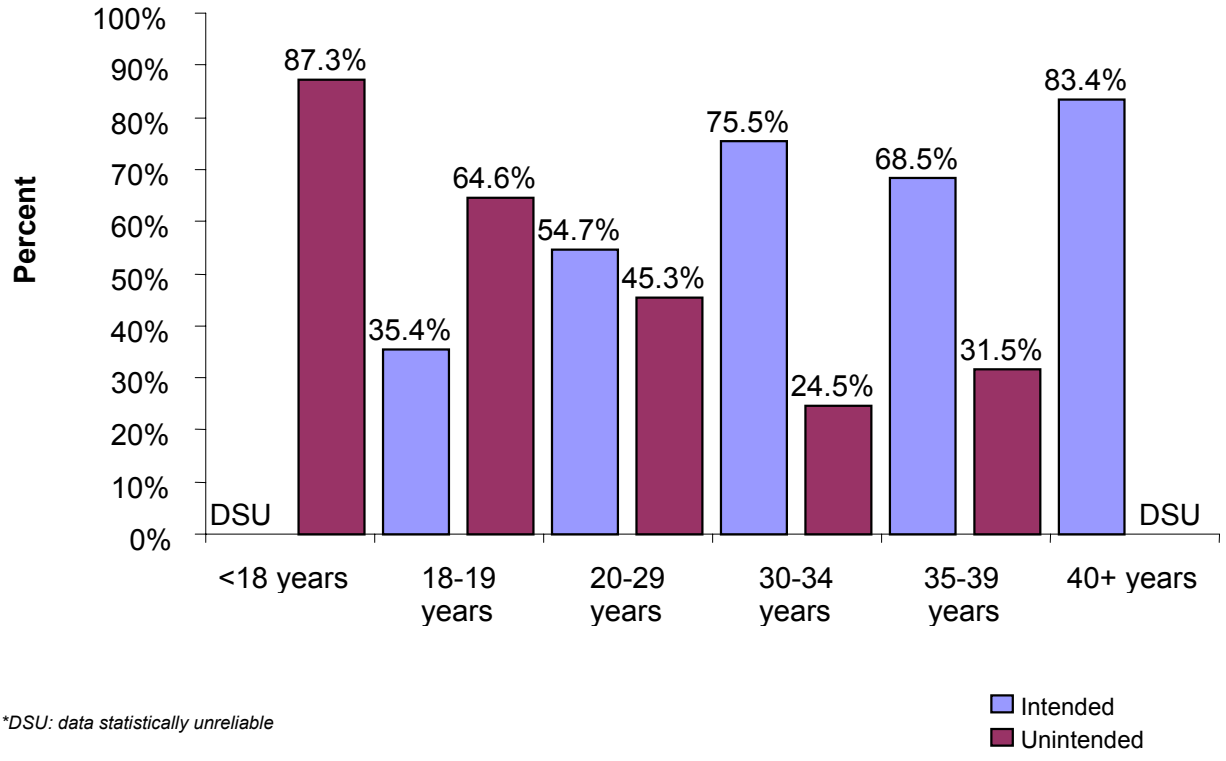


Figure 7:

Prevalence of intended and unintended pregnancies by maternal age, Jul-Dec 2001 MI PRAMS

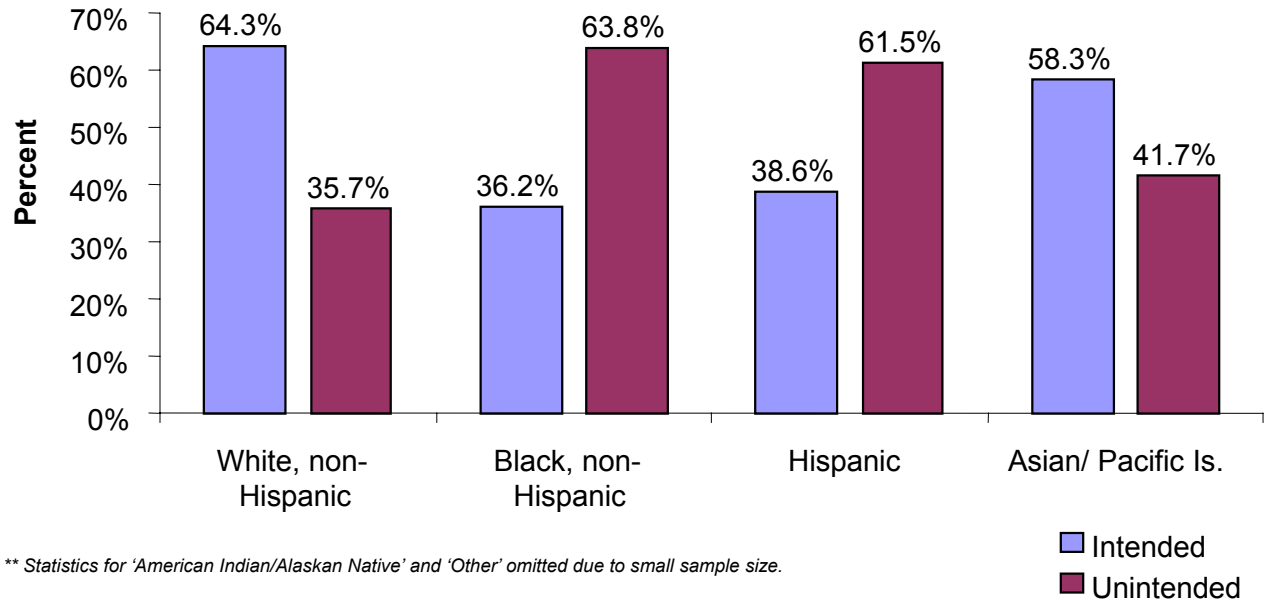


*DSU: data statistically unreliable

Unintended Pregnancy

Figure 8:

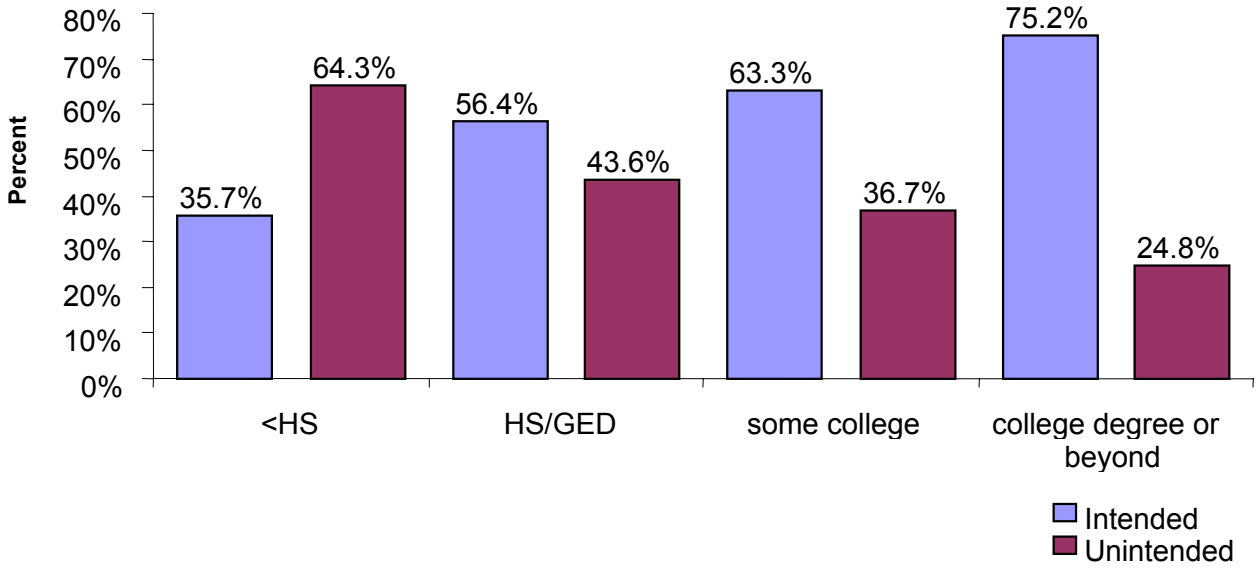
Prevalence of intended and unintended pregnancies by maternal race/ethnicity, Jul-Dec 2001 MI PRAMS



** Statistics for 'American Indian/Alaskan Native' and 'Other' omitted due to small sample size.

Figure 9:

Prevalence of intended and unintended pregnancies by maternal education, Jul-Dec 2001 MI PRAMS



Unintended Pregnancy

Figure 10:

Prevalence of intended and unintended pregnancies by maternal pre-pregnancy insurance status, Jul-Dec 2001 MI PRAMS

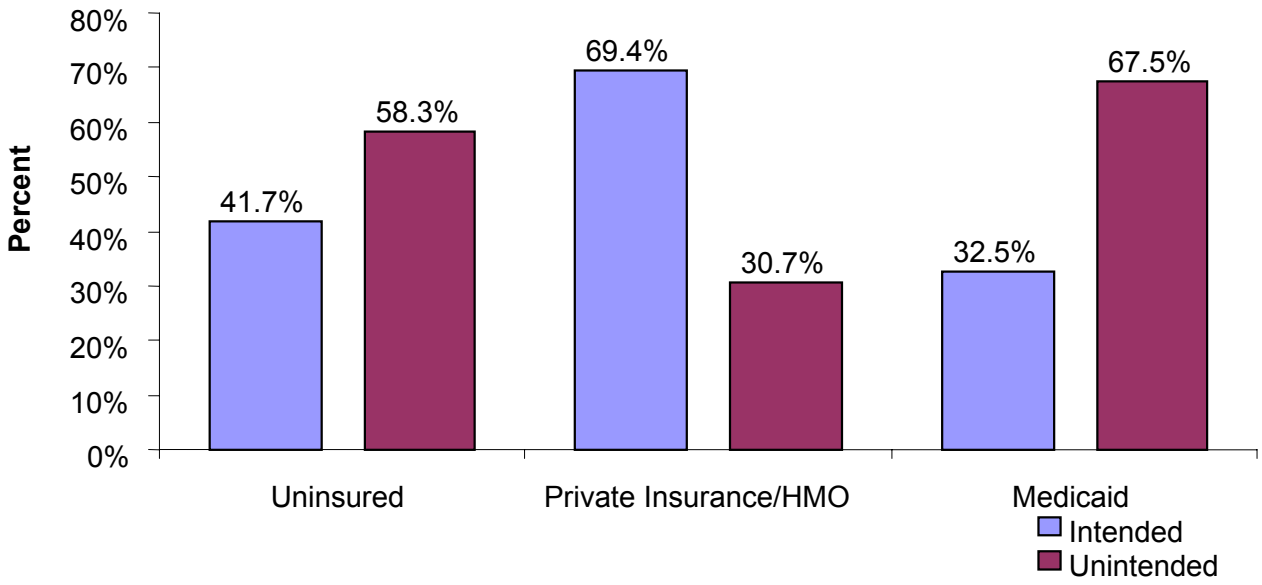
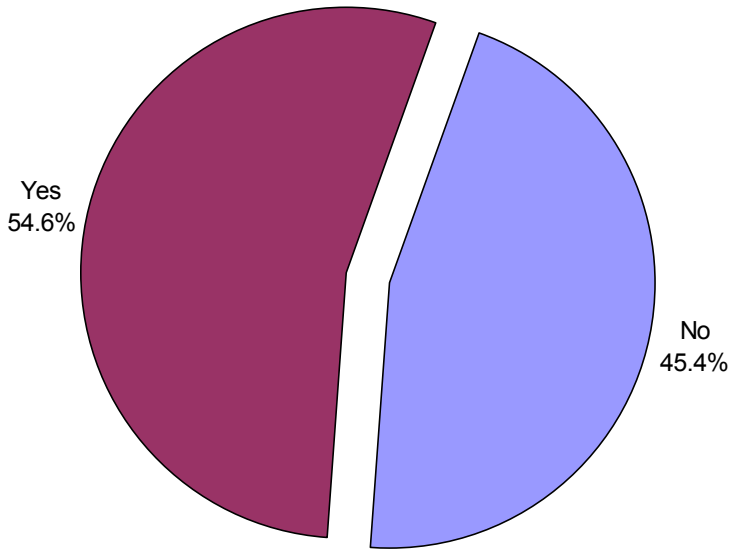


Figure 11:

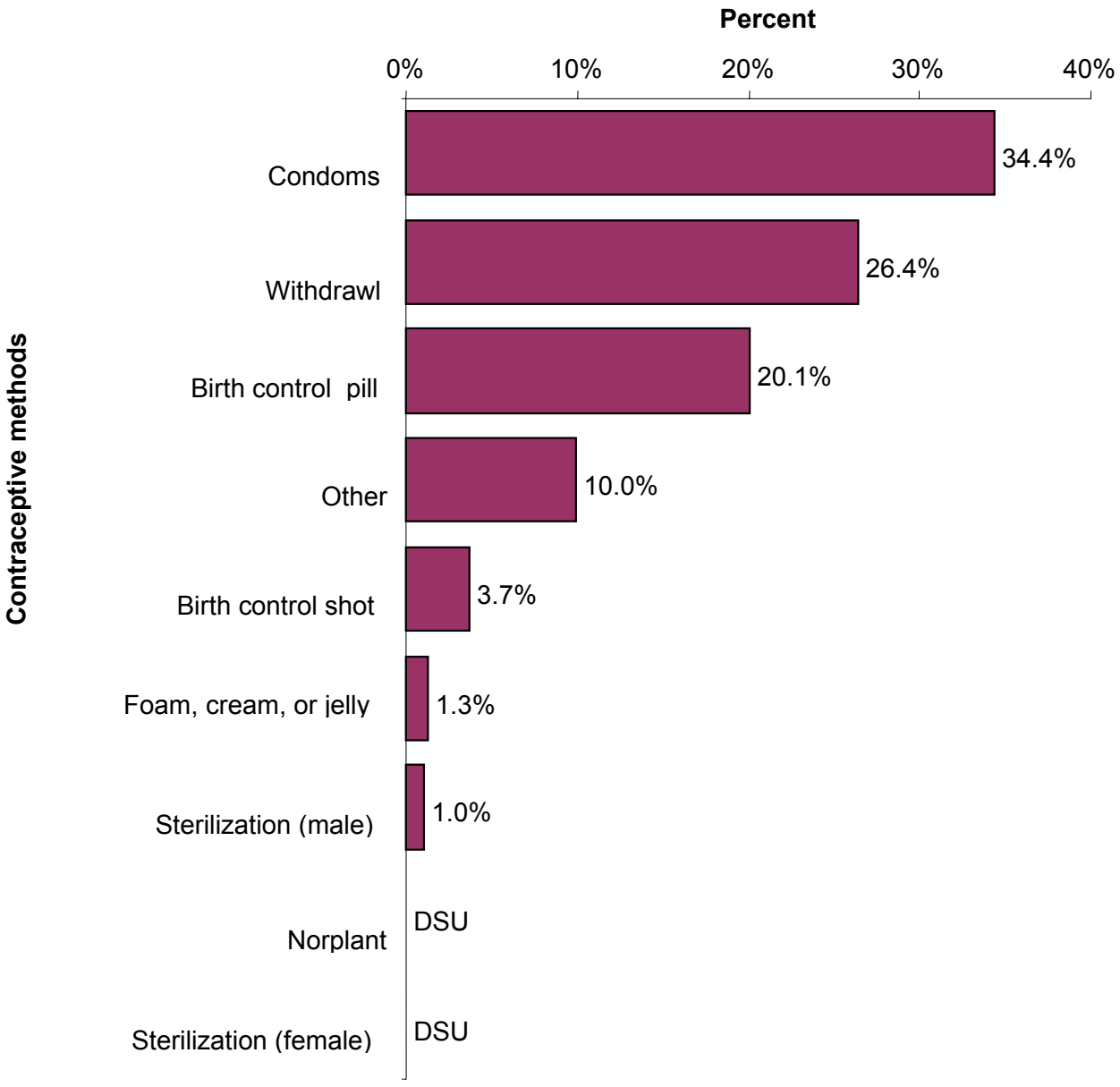
Prevalence of pre-pregnancy contraception use among women with an unintended pregnancy, Jul-Dec 2001 MI PRAMS



Unintended Pregnancy

Figure 12:

Method of pre-pregnancy contraception among women with an unintended pregnancy, Jul-Dec 2001 MI PRAMS



Contraception

Definition:

Women were asked several questions regarding their use of contraception prior to and following their pregnancy. All women surveyed were asked the following question:

Question #12: When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant?
_No
_Yes

Those who answered 'No' to question #12 were asked question #13:

Question #13: What were you or your husband or partner's reasons for not doing anything to keep from getting pregnant?
_I didn't mind if I got pregnant
_I thought I could not get pregnant at that time
_I had side effects from the birth control method I was using
_I had problems getting birth control when I needed it
_I thought my husband or partner was sterile
_My husband or partner didn't want to use anything
_Other

Those who answered 'Yes' to question #12 skipped question #13 and answered question #14:

Question #14: When you got pregnant with your new baby, what were you or your husband or partner doing to keep from getting pregnant?
_Pill
_Condoms
_Foam, cream, or jelly
_Norplant®
_Shots (Depo-Provera®)
_Withdrawal
_Tubes tied (sterilization)
_Vasectomy (sterilization)
_Other

To gather information on the use of postpartum contraception, participants were asked, the following:

Question #66: Are you, your husband or partner doing anything now to keep from getting pregnant?
_No
_Yes

Those women who answered No were asked an additional question:

Question #67: What are you your husband or partner's reasons for not doing anything to keep from getting pregnant now?

_ I am not having sex
_I want to get pregnant
_I don't want to use birth control
_My husband or partner doesn't want to use anything
_I don't think I can get pregnant
_I can't pay for birth control
_I am pregnant now
_Other

Results:

Less than half of women surveyed (47.4%) reported using contraception prior to pregnancy (*Fig. #13*). The prevalence of women who reported using a contraceptive method prior to pregnancy generally decreased with maternal age from 67.7% among women under the age of 18 years to 51.2% among women 35-39 years (*Fig. #14*). Women who reported using a contraceptive method were most prevalent among Hispanics (61.2%), women having a high school diploma/GED (52.6%), or at least a college degree (54.0%) (*Fig. #15-16*). Prevalence of pre-pregnancy contraceptive use was nearly equivalent among women who were on Medicaid, had private health insurance, or were uninsured prior to their pregnancy (35.0%, 30.9%, and 34.1% respectively) (*Fig. #17*). "Didn't mind getting pregnant," " husband or partner didn't want to use birth control," or "thought could not get pregnant" were the top three reasons cited for not using contraception prior to pregnancy (*Fig. #18*). Among those who were using a contraceptive method, the most popular contraceptive methods of choice were condoms (52.9%) and/or the pill (34.8%) (*Fig. #19*).

During the postpartum period 83.1% of women reported using a contraceptive method (*Fig. #20*). Use of a contraceptive method postpartum was highest among women ages 18-19, non-Hispanic White, non-Hispanic Blacks, and Asian/Pacific Islander (*Fig. #21-22*). Contraception use was fairly consistent across educational level, ranging from 79.5% to 85.4% (*Fig. #23*). There was a slightly higher prevalence of postpartum contraceptive non-use among women who had not discussed contraception during their prenatal care visit with a health care professional compared to women who reported having discussed contraception. Contraceptive non-use, among women who discussed contraception was 15.0% compared to 22.9% among women who reported not having a discussion with a health care worker (*Fig. #24*). Women, who did not use contraception in their postpartum period, reported not wanting to use birth control, not having sex, or other motives as their reasons for non-use (*Fig. #25*).

Public Health Implications:

Contraceptive use in the postpartum period is high, at eighty-three percent. It is highest among women under the age of twenty, and among Black, non-Hispanic women. However, this group had the highest rates of unintended pregnancies, and therefore, postpartum family planning counseling on the choice of a method is very important. This prevents very short interpregnancy intervals that are associated with various adverse maternal and infant health outcomes. Women who spoke to a health care provider about contraceptive use during the prenatal period were more likely to use contraceptives during the

postpartum period. Therefore, health care workers should address contraceptive counseling during the prenatal period to prepare for use in the postpartum period. The reasons cited for not using a contraceptive method postpartum were not wanting to use a birth control method, not having sex, the husband/partner does not want to use, and wants to get pregnant. Stressing the importance of spacing births and discussing contraceptive use early on should help address these issues.

Reference Tables: #6 - #10

Contraception

Fig. #13

Figure 13:

Prevalence of contraceptive use prior to pregnancy,

2001 Jul-Dec MI PRAMS

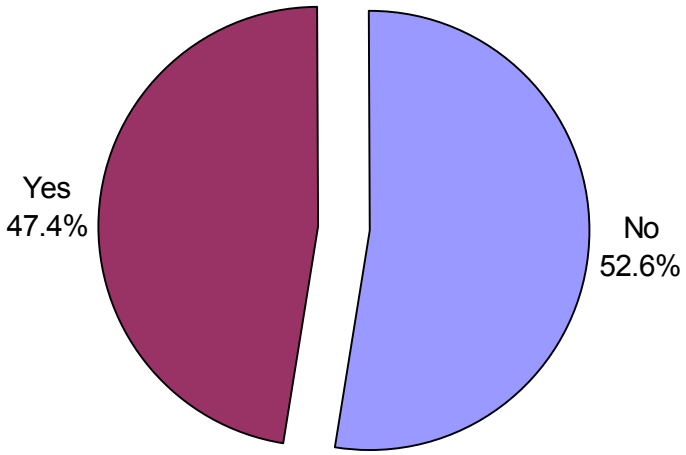
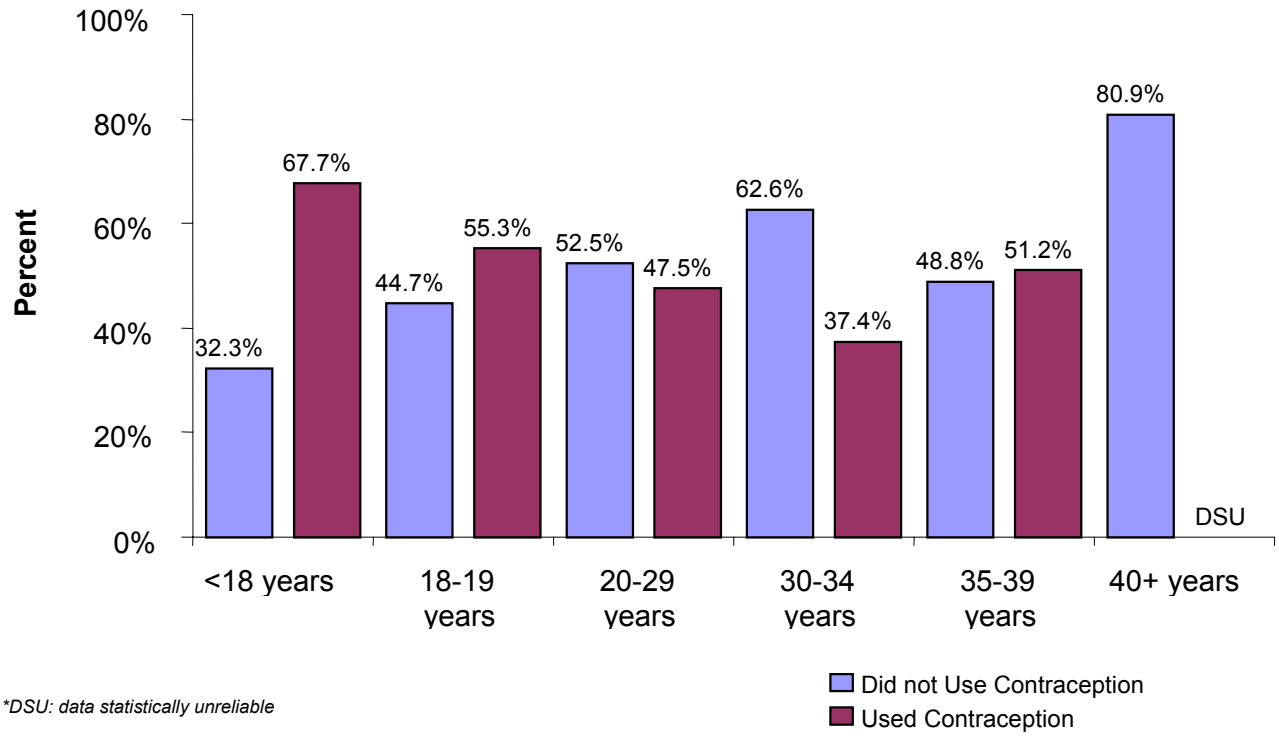


Figure 14:

Prevalence of contraceptive use prior to pregnancy by maternal age,

Jul-Dec 2001 MI PRAMS

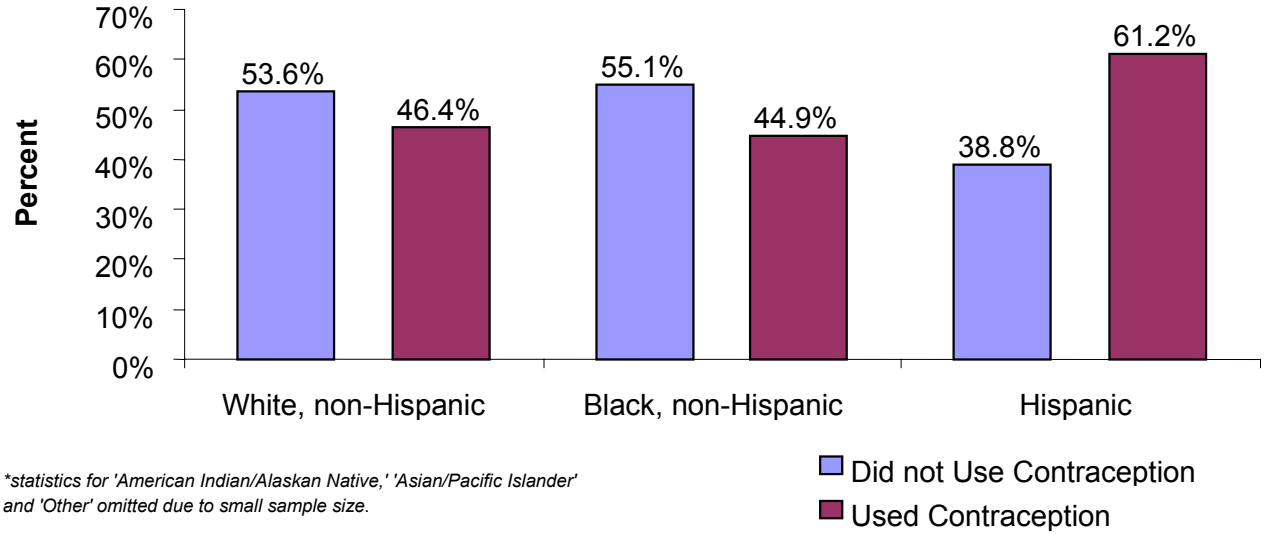


*DSU: data statistically unreliable

Contraception

Figure 15:

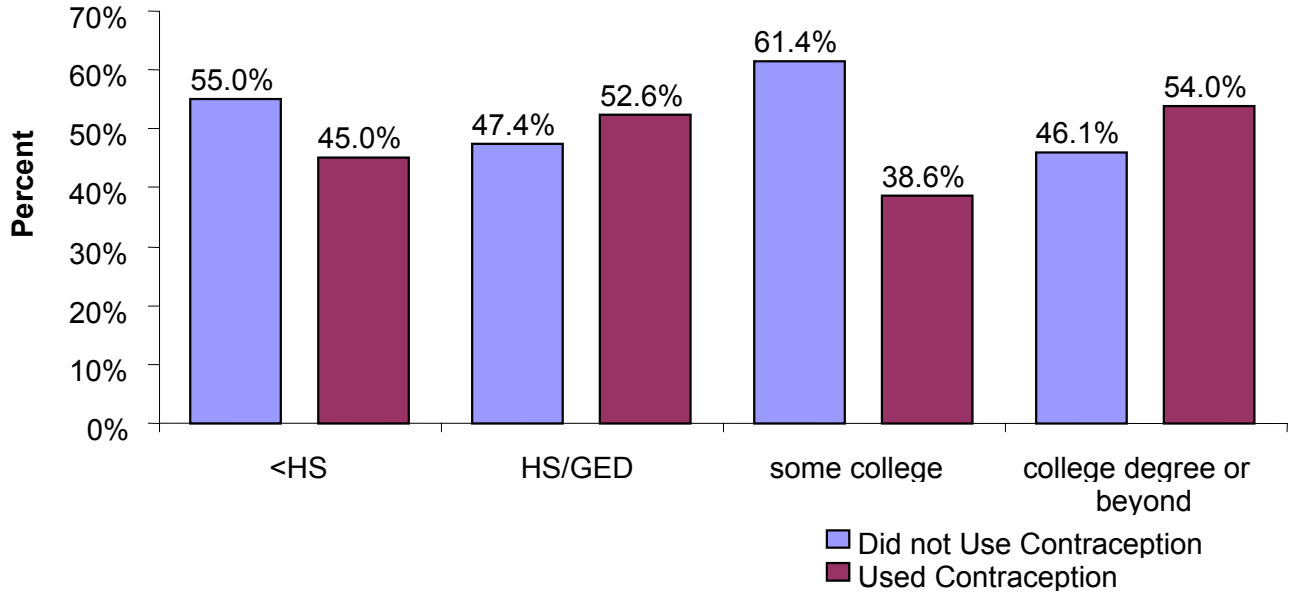
Prevalence of contraceptive use prior to pregnancy by maternal race/ethnicity, 2001 Jul-Dec MI PRAMS



**statistics for 'American Indian/Alaskan Native,' 'Asian/Pacific Islander' and 'Other' omitted due to small sample size.*

Figure 16:

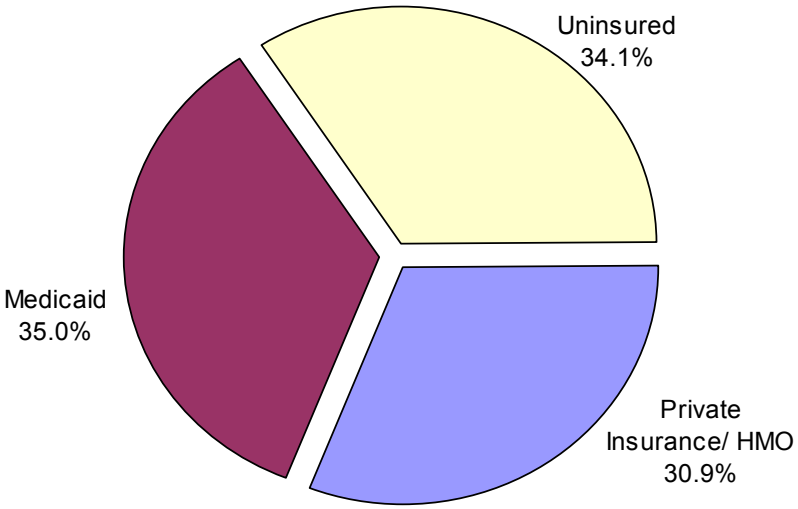
Prevalence of contraceptive use prior to pregnancy by maternal education, Jul-Dec 2001 MI PRAMS



Contraception

Figure 17:

Prevalence of contraceptive use prior to pregnancy by maternal insurance status, Jul-Dec 2001 MI PRAMS

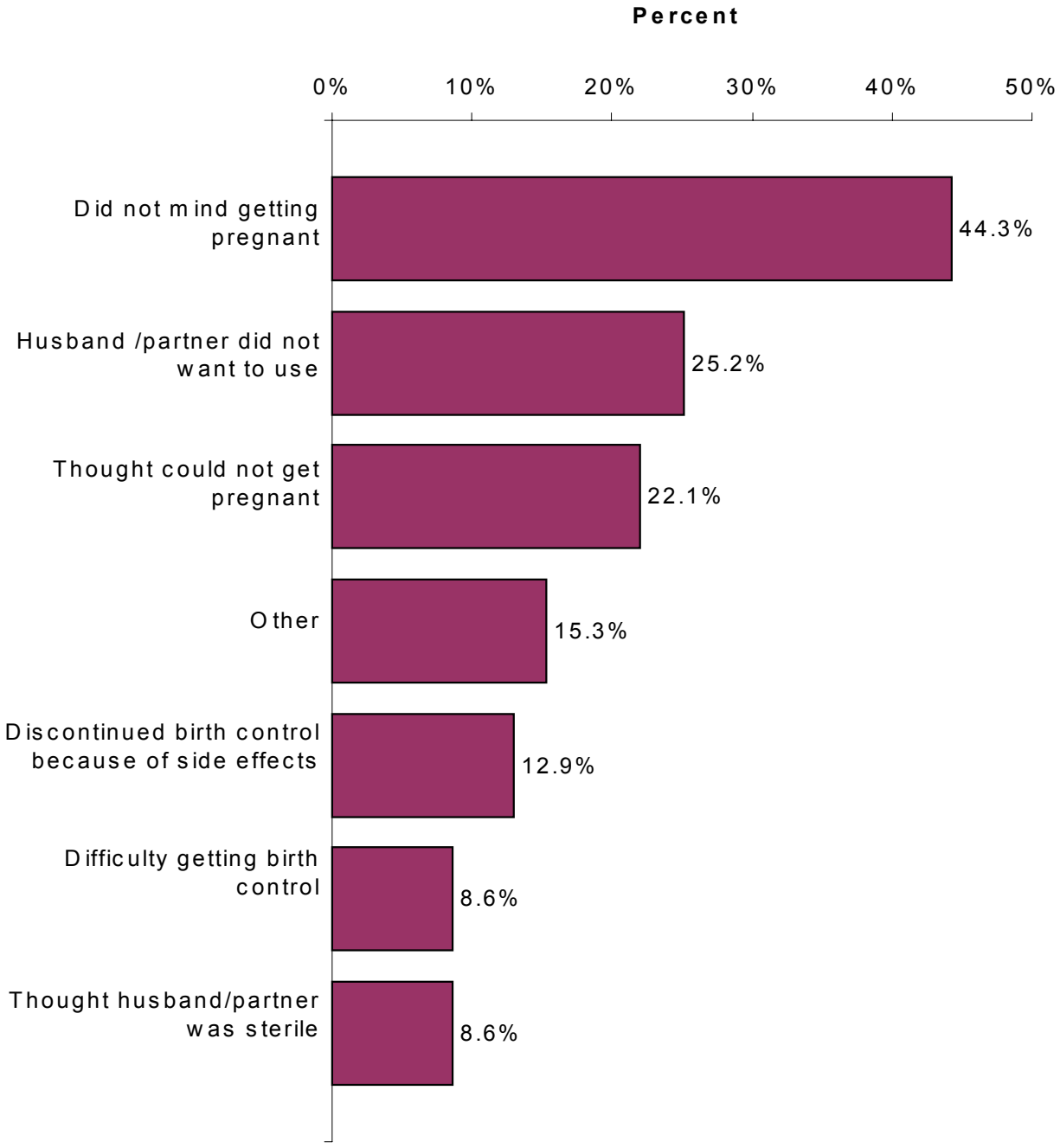


Contraception

Figure 18:

Reasons for not using a contraceptive method prior to pregnancy,

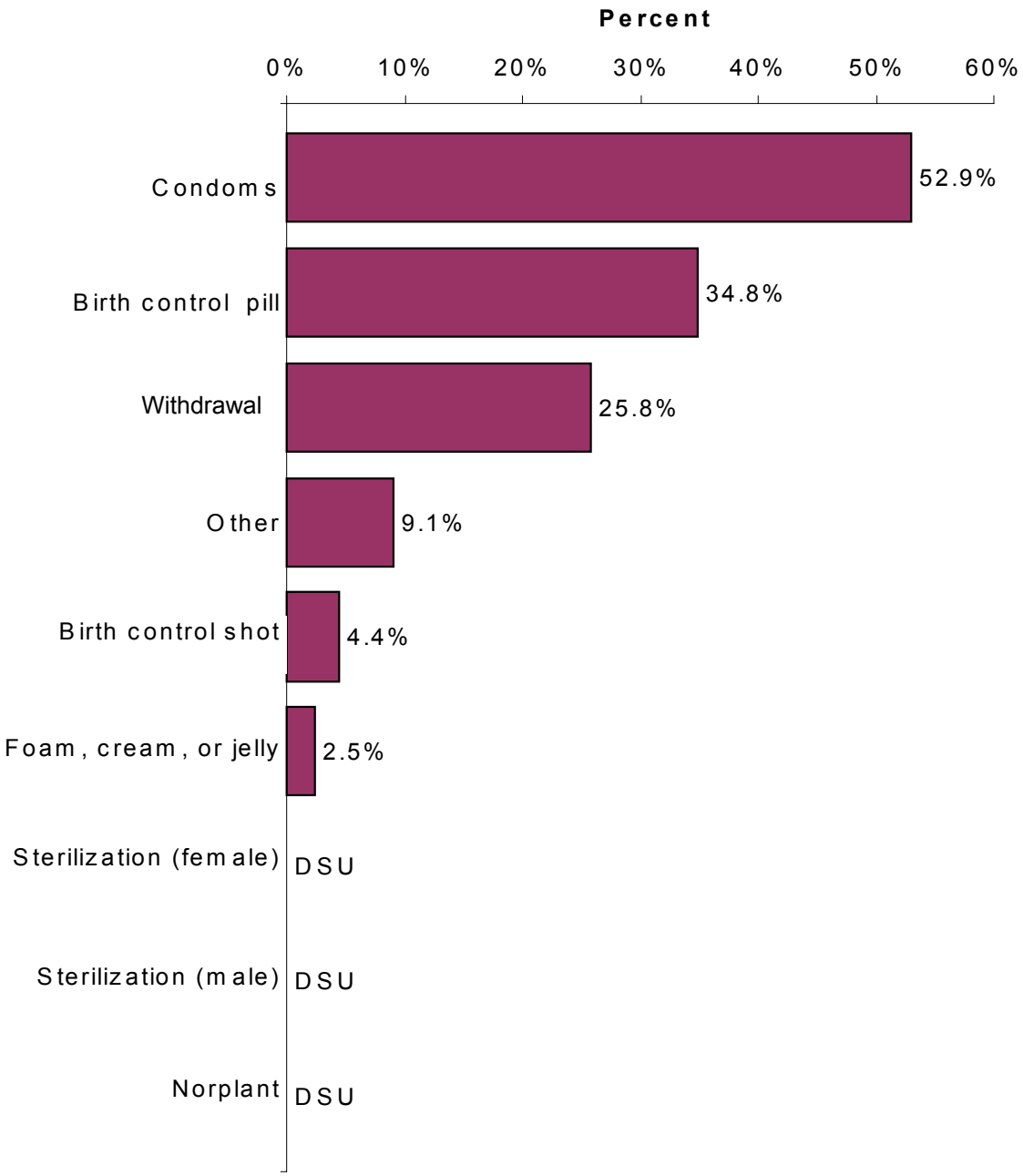
Jul-Dec 2001 MI PRAMS



Contraception

Figure 19:

Method of contraception among women who indicated using contraception prior to pregnancy, 2001 Jul-Dec MI PRAMS



*DSU: data statistically unreliable

Contraception

Figure 20:

Prevalence of contraception use during the postpartum period

Jul-Dec 2001 MI PRAMS

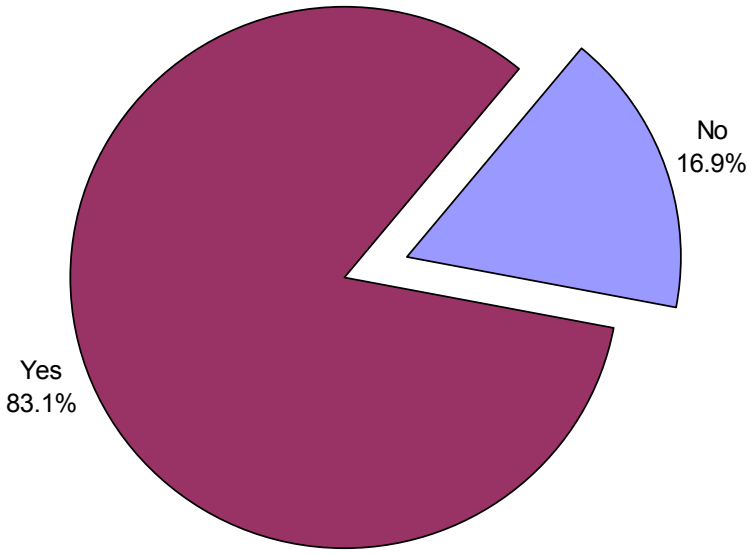
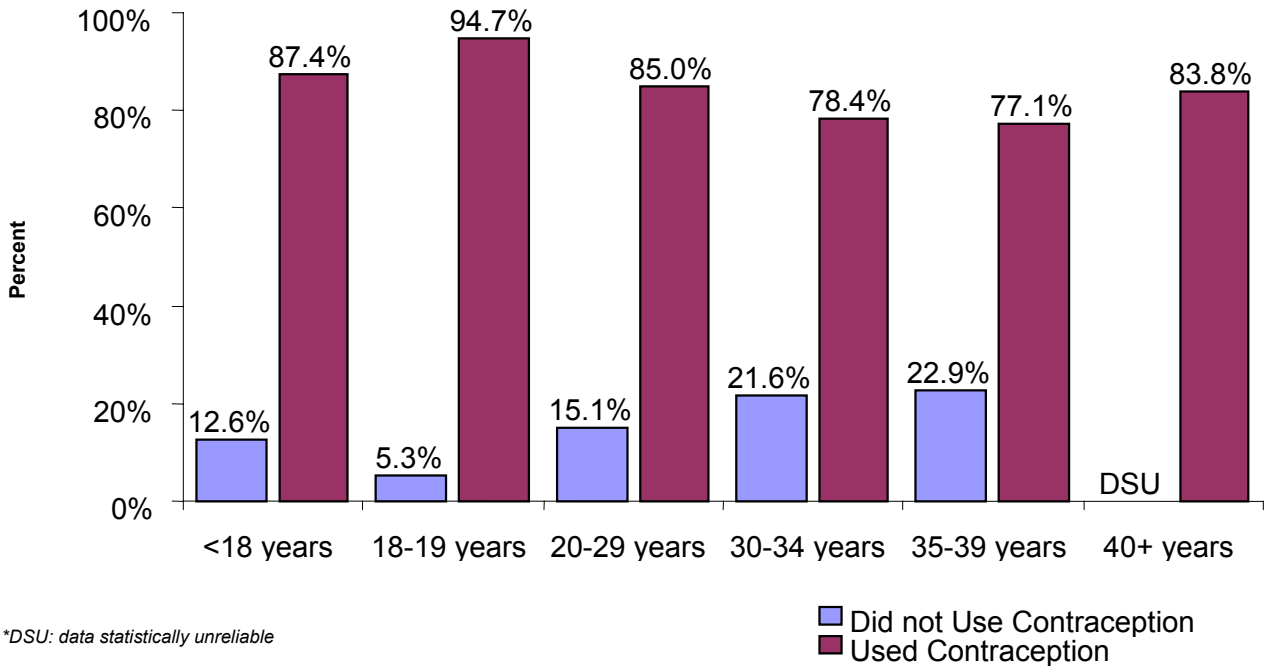


Figure 21:

Prevalence of contraception use during the postpartum period by maternal age,

Jul-Dec 2001 MI PRAMS

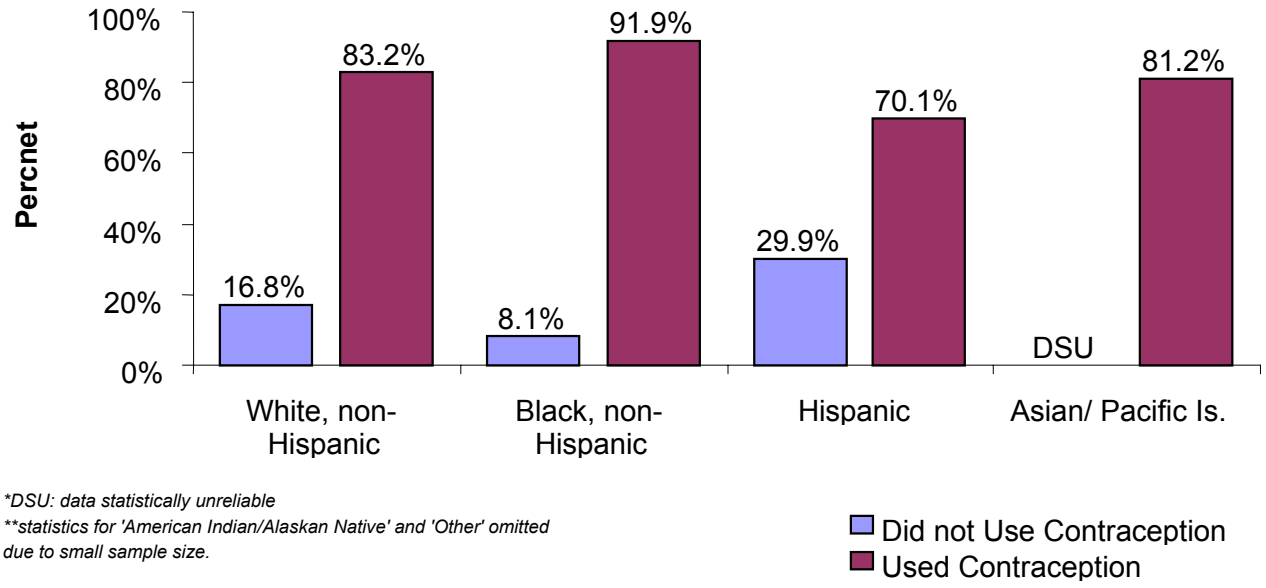


*DSU: data statistically unreliable

Contraception

Figure 22:

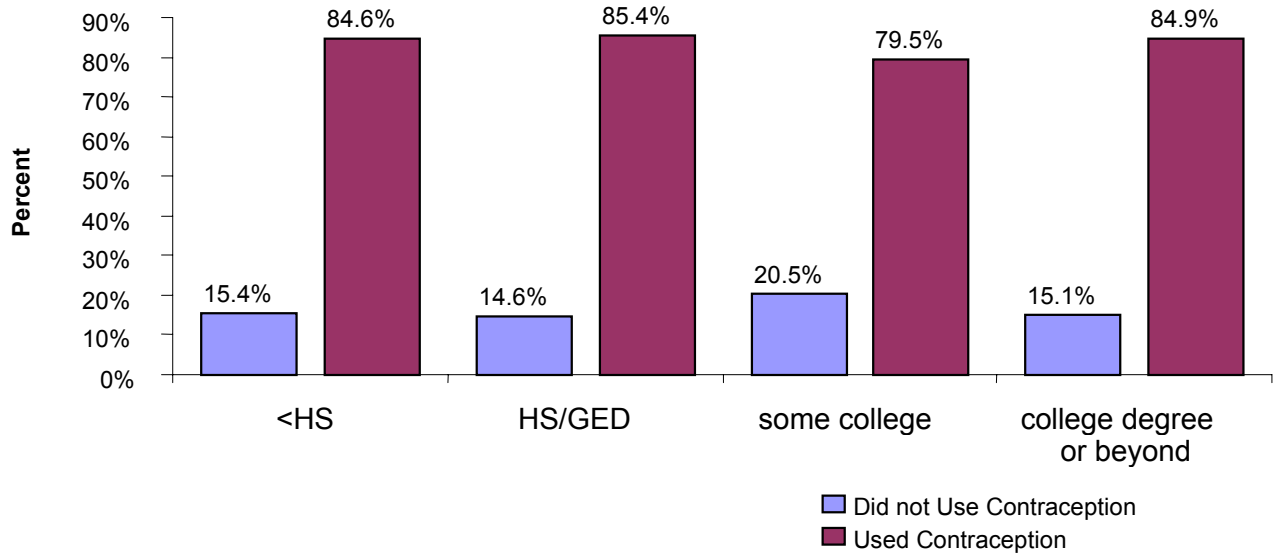
Prevalence of contraception use during the postpartum period by maternal race/ethnicity, Jul-Dec 2001 MI PRAMS



*DSU: data statistically unreliable
**statistics for 'American Indian/Alaskan Native' and 'Other' omitted due to small sample size.

Figure 23:

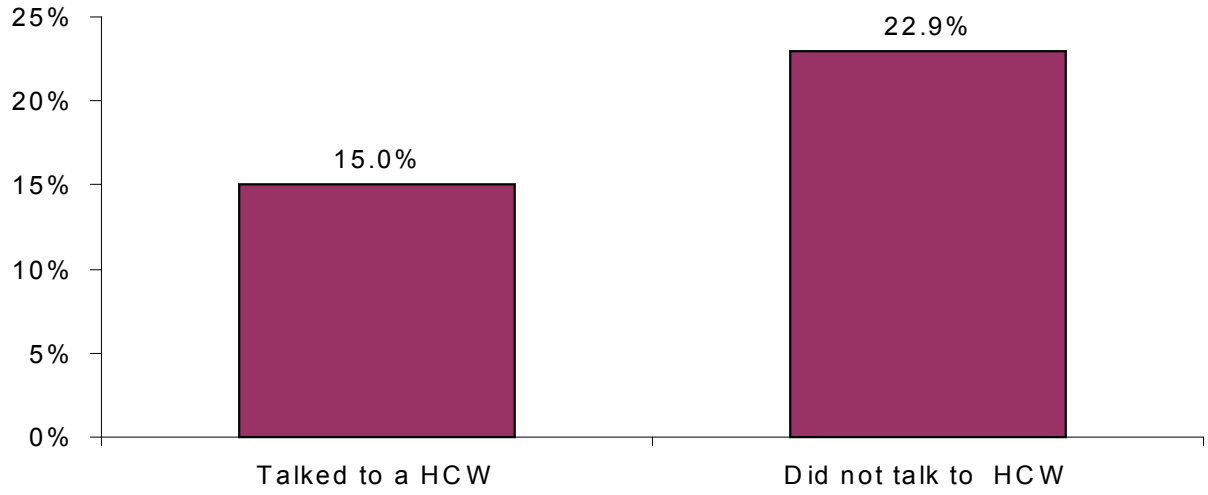
Prevalence of contraception use during the postpartum period by maternal education, Jul-Dec 2001 MI PRAMS



Contraception

Figure 24:

Non-use of contraception during postpartum by discussion with health care professional during prenatal care, Jul-Dec 2001 MI PRAMS

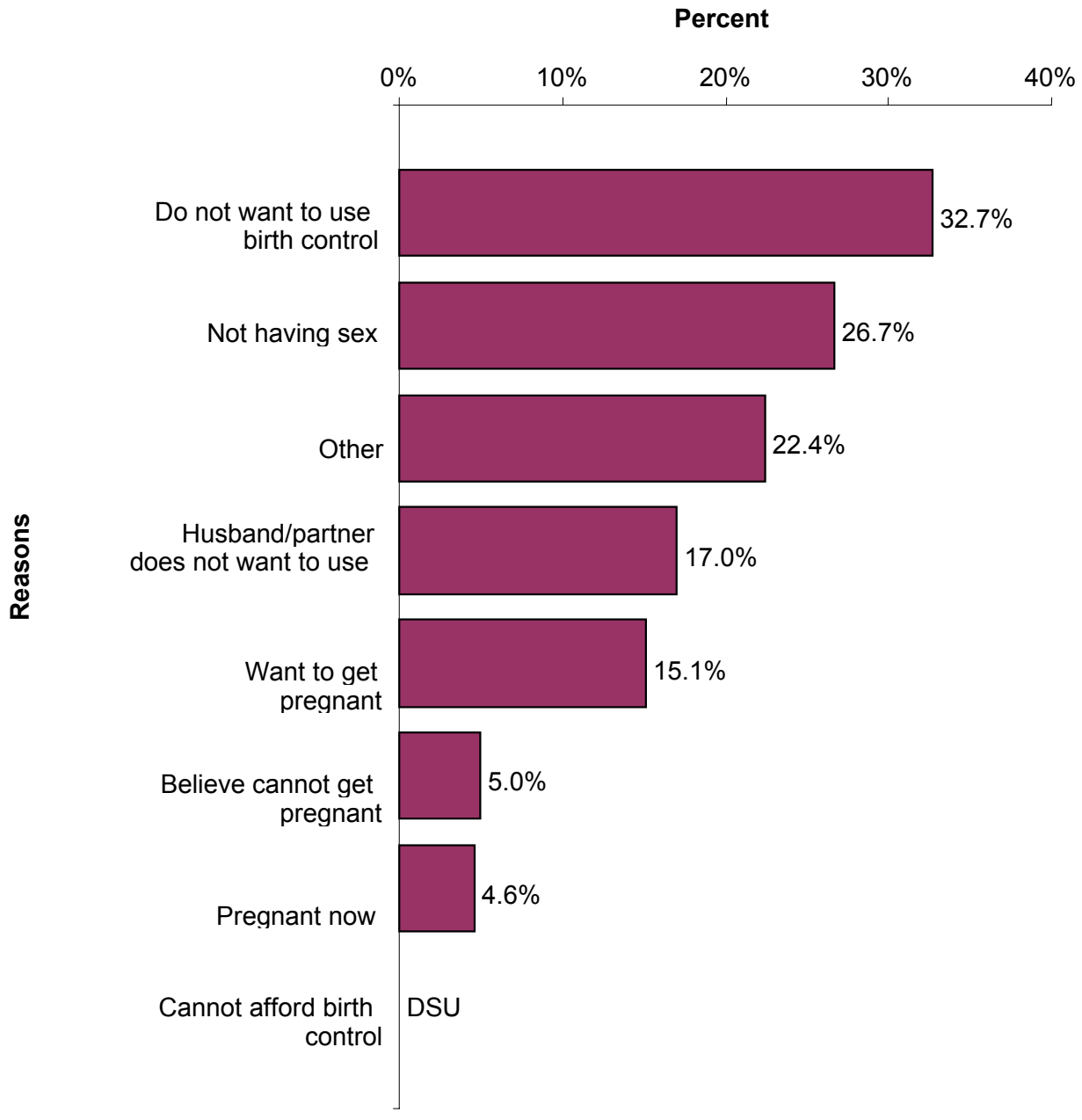


Contraception

Figure 25:

Reasons for not using a contraceptive method postpartum

Jul-Dec 2001 MI PRAMS



*DSU: data statistically unreliable

Low Birth Weight

Definition:

Information on infant's birthweight was derived from information from the birth certificate information included in the PRAMS dataset. Infants were classified as 'low birthweight' if they weighed less than 2500 grams (5.51 lbs) at birth and normal birth weight if they weighed 2500 grams or more. Low birth weight infants were further subdivided into very low birth weight (weight <1500 grams or 3.31 lbs at birth) or moderately low birthweight (weight=1500-2499 grams or 3.31-5.51 lbs at birth).

Results:

Among the estimated 64,518 births that occurred in Michigan during the last half of 2001, only 7.1% were infants weighing less than 2500 grams (*Fig. #26*). Of those 4,565 low birthweight infants, 83.2% were moderately low birthweight and 16.8% were very low birth weight infants. Women at the extreme ends of maternal age (<20 and >40 years of age) experienced a slightly higher prevalence of low birth weight infants (*Fig. #27*). The prevalence of low birth weight was 6.3% for women between the ages of 30-34 years while for women over the age of 40 years, 18-19 years, or under the age of 18 it was 9.5%, 9.2%, and 8.0%, respectively. Non-Hispanic Blacks, by far, had the highest prevalence of low birth weight infants compared to other racial/ethnic groups (*Fig. #28*). The prevalence among non-Hispanic Blacks was 14.8% whereas among Asian/Pacific Islanders, non-Hispanic Whites, and Hispanics it was 7.6%, 5.9%, and 3.4%, respectively. Compared to women of other educational levels, women with only a high school diploma/GED had the highest percentage of low birthweight infants (*Fig. #29*). Among women who had insurance prior to pregnancy, Medicaid recipients experienced a higher prevalence of low birth weight infants (11.4%) compared to women with private coverage (6.5%) (*Fig. #30*). Approximately three-quarters of low birth weight infants were found to be pre-term when birth weight was stratified by gestational age (*Fig. #31*).

Public Health Implications:

Those who are at risk for delivering a low birth weight infant are: women under twenty and women over the age of thirty-five, those with a HS diploma/GED, women participating in Medicaid, and non-Hispanic Blacks. The majority (about 75%) of low birth weight infants are pre-term. Efforts to prevent early labor and pre-term birth through counseling about the risks for preterm and low birth weight may have a considerable impact on the number of low birth weight births.

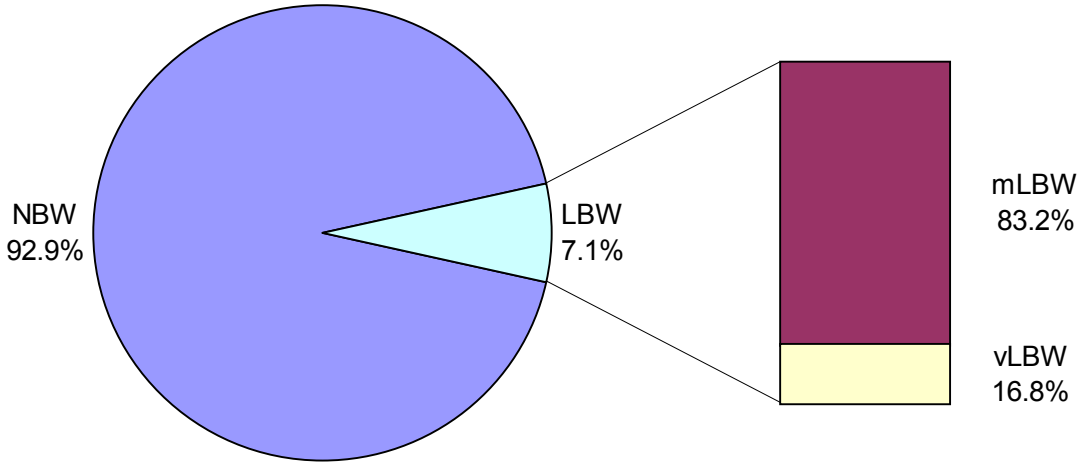
Reference Tables: #11 - #14

Low Birth Weight

Figure 26:

Prevalence of infant birth weight and types of low birth weight,

Jul-Dec 2001 MI PRAMS

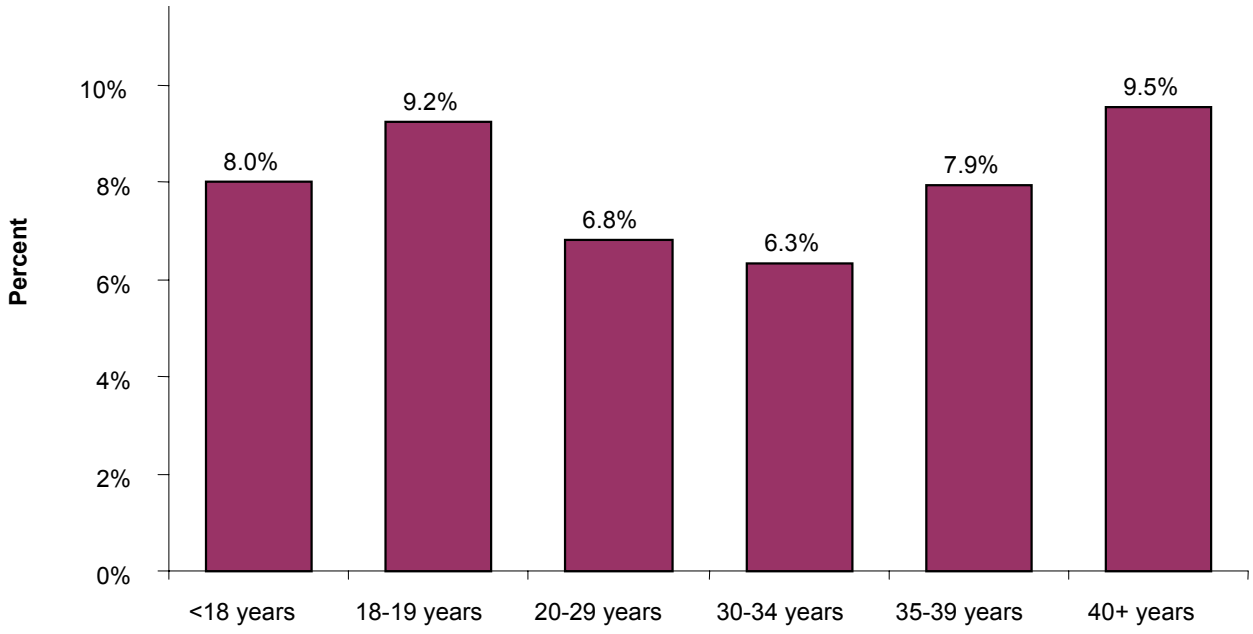


**mLBW: birth weight between 1500 grams and 2500 grams*
**vLBW: birth weight less than 1500 grams*

Figure 27:

Prevalence of low birth weight by maternal age

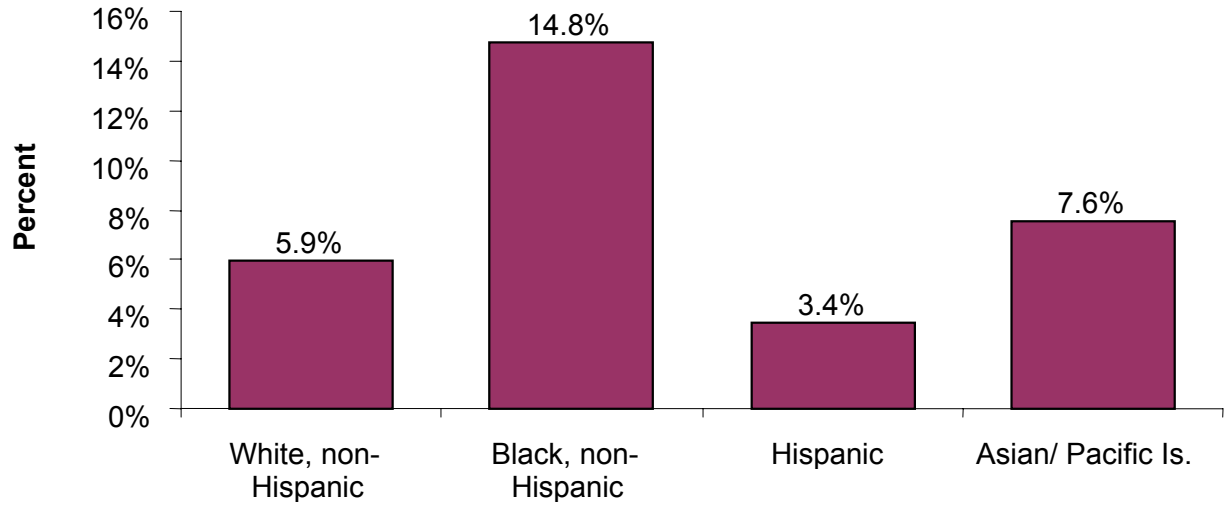
Jul-Dec 2001 MI PRAMS



Low Birth Weight

Figure 28:

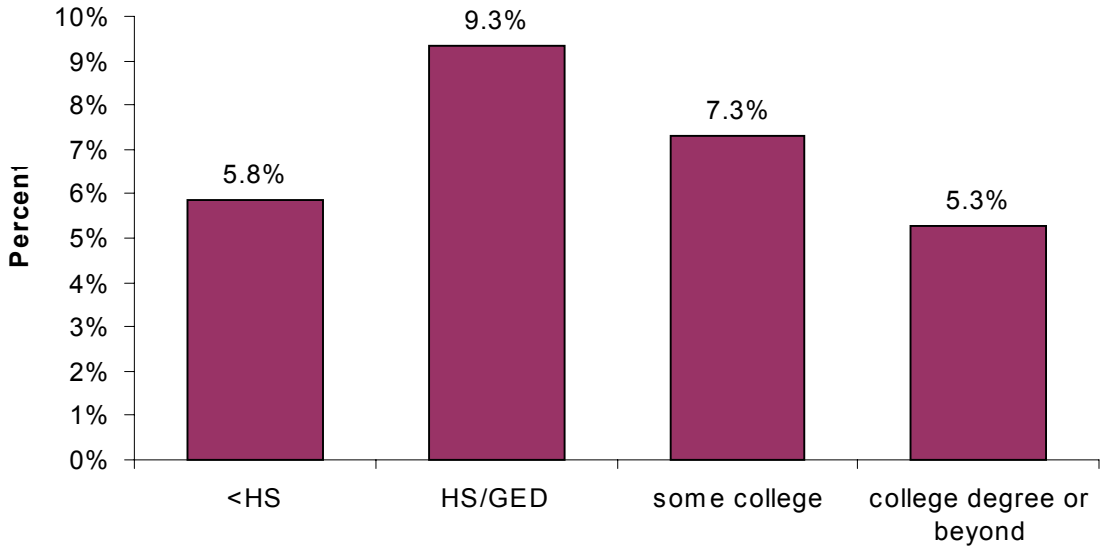
Prevalence of low birth weight by maternal race/ethnicity,
Jul-Dec 2001 MI PRAMS



***statistics for 'American Indian/Alaskan Native' and 'Other' omitted due to small sample size.*
**DSU: data statistically unreliable*

Figure 29:

Prevalence of low birth weight by maternal education
Jul-Dec 2001 MI PRAMS



Low Birth Weight

Figure 30:

Prevalence of low birthweight by maternal pre-pregnancy insurance status, Jul-Dec 2001 MI PRAMS

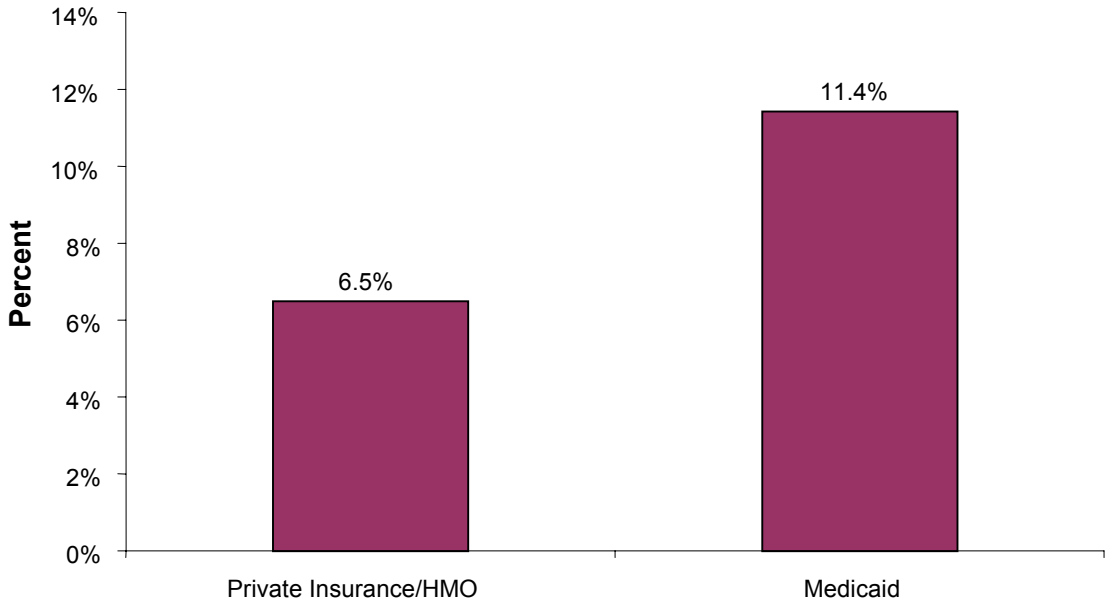
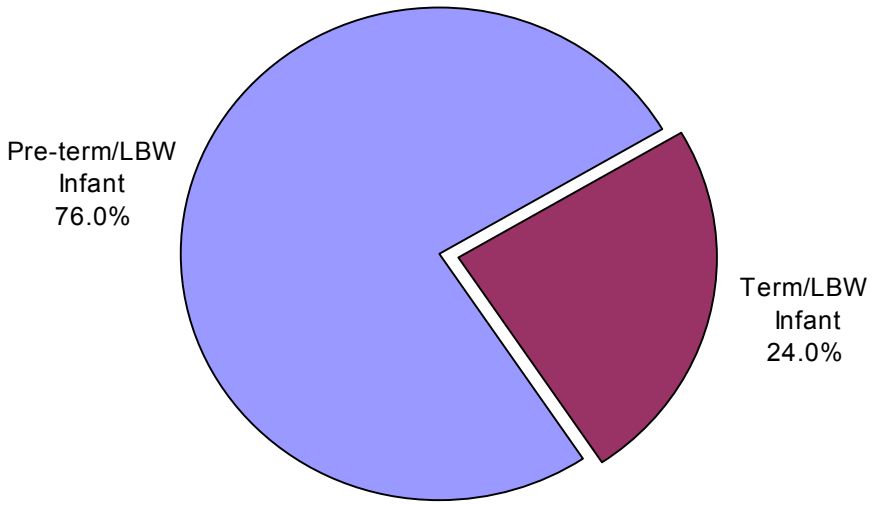


Figure 31:

Prevalence of low birth weight by gestational age, Jul-Dec 2001 MI PRAMS



Prenatal Care

Definition:

Several questions in the PRAMS questionnaire are devoted to the topic of prenatal care. The first question ascertains when care was initiated.

Question #16: How many weeks or months pregnant were you when you had your first visit for prenatal care? (Do not count a visit that was only for a pregnancy test or only for WIC [the special supplemental nutrition program for Women, Infants, and Children].)

_weeks
_months
_ I did not go for prenatal care

Women who indicated that they entered prenatal care by the twelfth week (by the end of the third month) of their pregnancy were coded as initiating care in the first trimester. Those entering care between the thirteenth and twenty-fourth week (fourth to sixth months) of their pregnancy were coded as entering care in the second trimester. Women entering PNC after their twenty-fourth week (seventh month), entered care in their third trimester. Women who were coded as having "No PNC" indicated they did not go for prenatal care during their pregnancy. Women surveyed for PRAMS were also asked about their satisfaction with the time they entered care.

Question #17: Did you get prenatal care as early in your pregnancy as you wanted?

_No
_Yes
_I did not want prenatal care

Women who responded 'No' were said to have entered care later than they desired and those who answered 'Yes' as early as they desired. Those women who entered PNC after their first trimester and who entered later than they desired, were asked to identify from a list, barriers they felt, prevented them from obtaining care when they desired.

Question #18: Did any of these things keep you from getting prenatal care as early as you wanted?

_I couldn't get an appointment earlier in my pregnancy
_I didn't have enough money or insurance to pay for my visits
_I didn't know I was pregnant
_I had no way to get to the clinic or doctor's office
_The doctor or my health plan would not start care earlier
_I didn't have my Medicaid card
_I had no one to take care of my children
_I had too many other things going on
_Other

Information on prenatal care provider and method of payment for care, among women who obtained care, was gleaned from responses to question 19 and 20:

Question #19: Where did you go most of the time for your prenatal care visits? (Do not count visits for WIC.)

_Hospital clinic
_Health department clinic
_Private doctor's office or HMO clinic
_Other

Question #20: How was your prenatal care paid for?

_Medicaid or Medicaid HMO
_Personal Income (cash, check, or credit card)
_Health insurance or HMO
_Other

Information regarding health education during prenatal care visits was derived from question 21, which asked women to indicate the topics they discussed with a healthcare professional during any of their visits.

Question #21: During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about any of the things listed below? (Please count only discussions, not reading materials or videos.)

_How smoking during pregnancy could affect your baby
_Breastfeeding your baby
_How drinking alcohol during pregnancy could affect your baby'
_Using a seatbelt during your pregnancy
_Birth control methods to use after your pregnancy
_Medicines that are safe to take during your pregnancy
_How using illegal drugs could affect your baby
_Doing tests to screen for birth defects or diseases that run in your family
_What to do if your labor starts early
_Getting your blood tested for HIV (the virus that causes AIDS)
_Physical abuse to women by their husbands or partners

Results:

The majority of women delivering in the second half of 2001 (81.6%) entered prenatal care in the first trimester of their pregnancy (*Fig. #32*). Late entry into prenatal care is defined as entering prenatal care after the first trimester. Approximately 15.7% entered in their second trimester; 2.5% entered in their third; and less than one percent (0.3%) received no prenatal care during their pregnancy. The majority of women entering prenatal care after the first trimester were less than twenty years old (33.6% of women were under the age of eighteen and 42.2% were between the ages of eighteen and nineteen (*Fig. #33*). Non-Hispanic Blacks and Hispanics were twice as likely to enter prenatal care late compared to non-Hispanic Whites (*Fig. #34*). The prevalence of late entry into prenatal care was 38.2% among non-Hispanic Blacks and 33.1% among Hispanics as opposed to 14.3% among non-Hispanic Whites. Also, approximately one-third of women who either had no insurance prior to pregnancy or who were Medicaid recipients prior to their pregnancy entered prenatal care after their first trimester (*Fig. #36*). Late entry into prenatal care was also inversely associated with education, with a higher proportion of women with less than a high school diploma entering prenatal care after the first trimester compared to women with higher levels of education (*Fig. #35*). Pregnancy intention also plays a role in prenatal care entry. A higher proportion of women whose

pregnancies were unintended entered prenatal care after the first trimester compared to women who intended on becoming pregnant (*Fig. #37*).

A majority (84.9%) of women were satisfied with the time of entry into prenatal care (*Table #18*). Barriers, both real and perceived, may affect the time at which a woman enters care. More than half (63.2%) of the women who both entered prenatal care after the first trimester and who entered later than they desired, indicated one barrier to care. 25.3% cited two barriers and 7.7% experienced three or more barriers that prevented them from seeking prenatal care earlier in their pregnancy (*Fig. #38*). The most prevailing types of barriers these women selected as reasons why they did not seek care earlier were: being unaware of their pregnancy (36.3%), could not receive an earlier appointment (30.4%), and could not afford visits (20.8%) (*Fig. #38*).

When asked about how their prenatal care was paid for, slightly more than half of the women surveyed (67.2%) indicated that their care was paid for by their health insurance (*Fig. #40*). Medicaid was the second most mentioned source of funds for prenatal care (35.5%) with the remaining 15.7% either paid for care with their own earnings or through other means (*Table #22*). Although an overwhelming majority of women obtained prenatal care at their doctor's office or HMO (82.5%), hospital and health department clinics were also sources of prenatal care (cited by 13.7% and 3.8% of women, respectively) (*Fig. #39*).

Prenatal care visits offer a valuable opportunity to educate women on various health-related issues. More than seventy-five percent of women reported discussing (not including educational material given to read or videos watched) with a doctor, nurse, or other health care professional the following topics during any of their prenatal care visits: safe medication to take during pregnancy, HIV testing, screening for birth defects, what to do in the event of an early labor, breastfeeding, and postpartum contraception (*Fig. #41*).

Public Health Implications:

Although a majority of mothers enter prenatal care early, women who enter after their first trimester are of particular concern to public health professionals. The top three reasons reported by women for entering prenatal care after the first trimester were: being unaware of their pregnancy, could not get an earlier appointment, and could not afford an appointment. Two of these reasons were issues relating to health care access. Community-based initiatives to improve access to care can be effective in developing systems of care for women of childbearing age. Community-based educational initiatives on the early signs and symptoms of pregnancy and the benefits of early PNC need to target particularly teenagers, Blacks, non-Hispanic women and women with less than a high school education. Continued collaboration is needed between public health professionals and medical providers to further explore and improve access to care in the first trimester for pregnant women.

Reference Tables: #16 - #23

Prenatal Care

Figure 32:

Trimester of entry into prenatal care,

Jul-Dec 2001 MI PRAMS

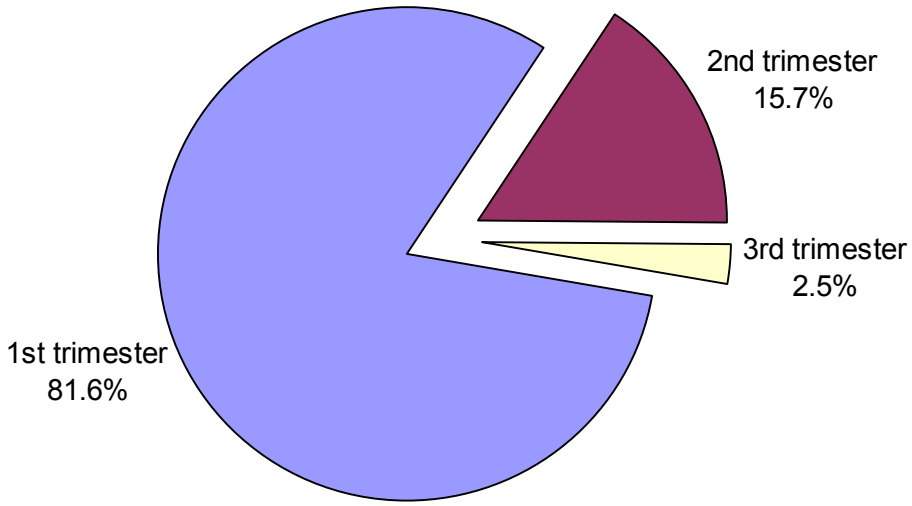
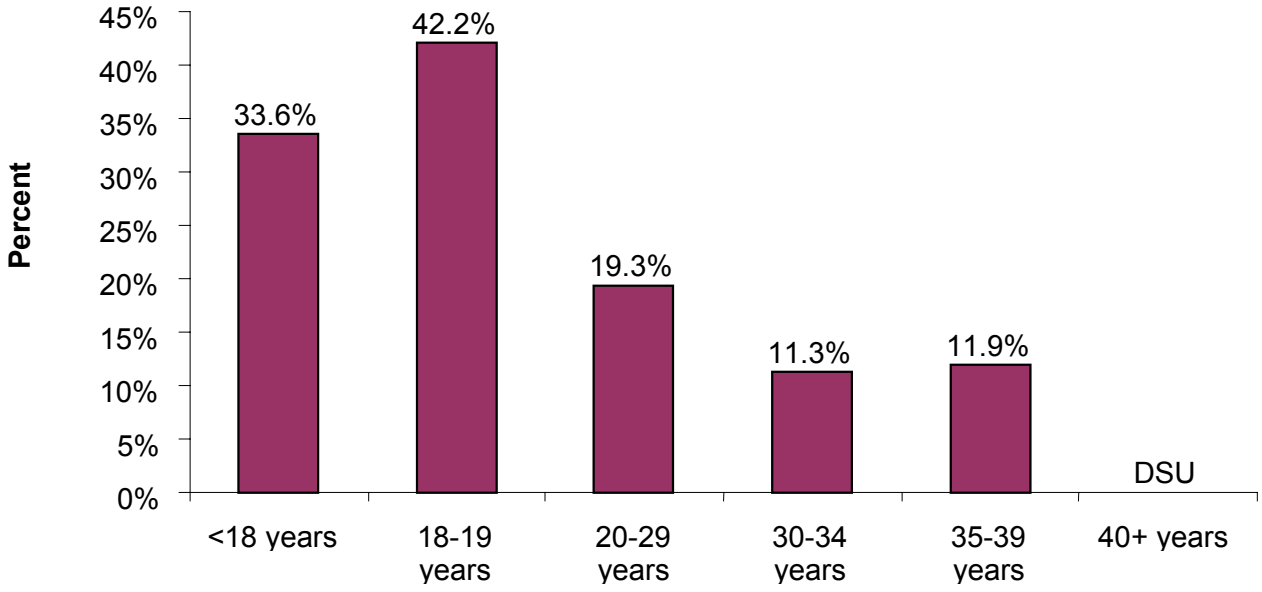


Figure 33:

Entry into prenatal care after the first trimester or not at all by maternal age,

Jul-Dec 2001 MI PRAMS

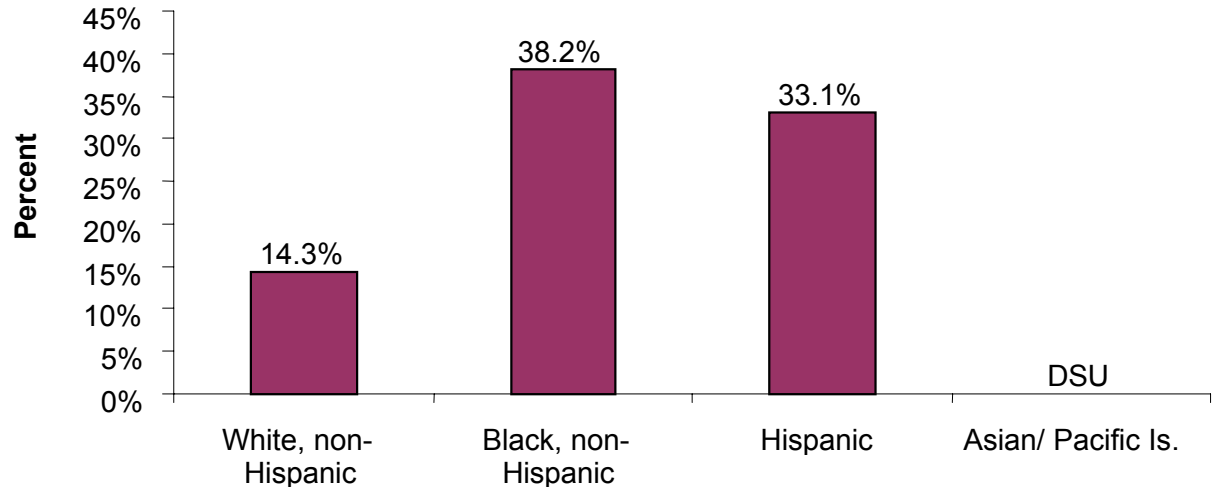


*DSU: data statistically unreliable

Prenatal Care

Figure 34:

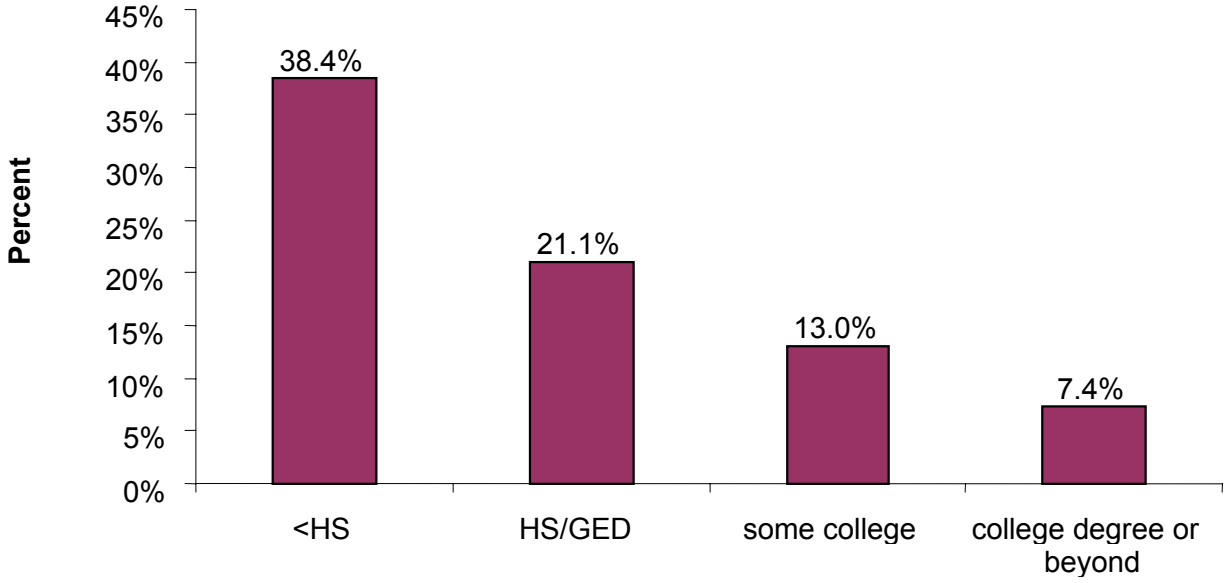
Entry into prenatal care after the first trimester or not at all by maternal race/ethnicity, Jul-Dec 2001 MI PRAMS



*DSU: data statistically unreliable
*statistics for 'AmericanIndian/Alaskan Native, 'Asian/Pacific Islander,' and 'Other' omitted due to small sample size.

Figure 35:

Entry into prenatal care after the first trimester or not at all by maternal education, Jul-Dec 2001 MI PRAMS



Prenatal Care

Figure 36:

Entry into prenatal care after the first trimester or not at all by pre-pregnancy insurance status, Jul-Dec 2001 MI PRAMS

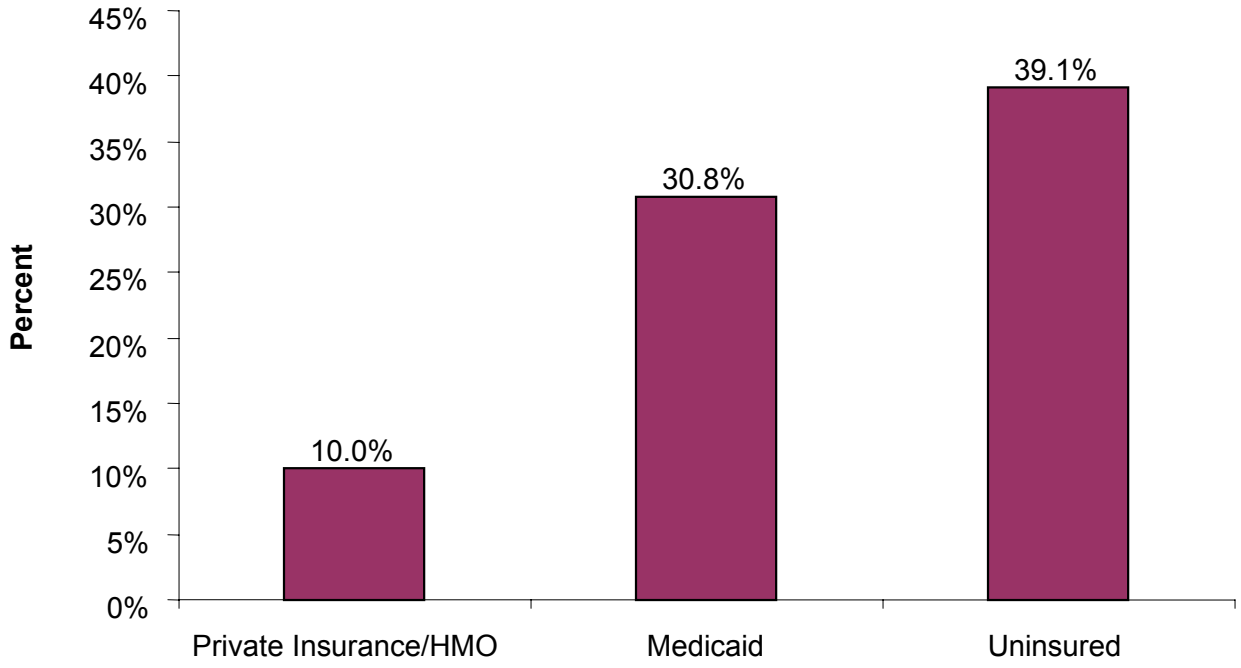
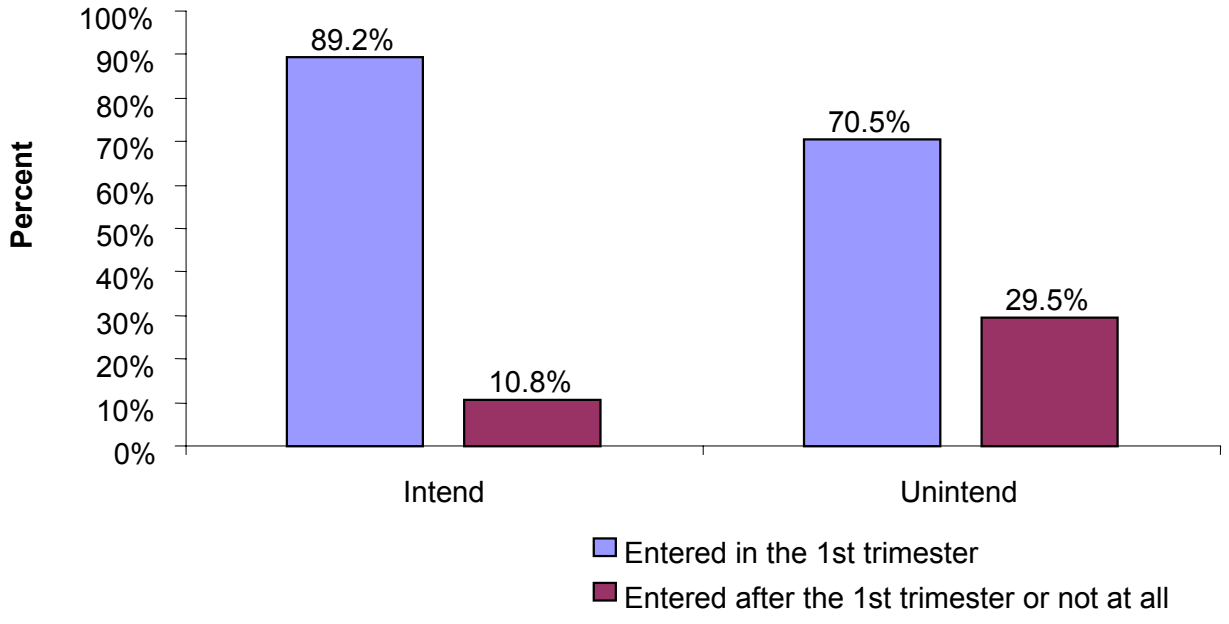


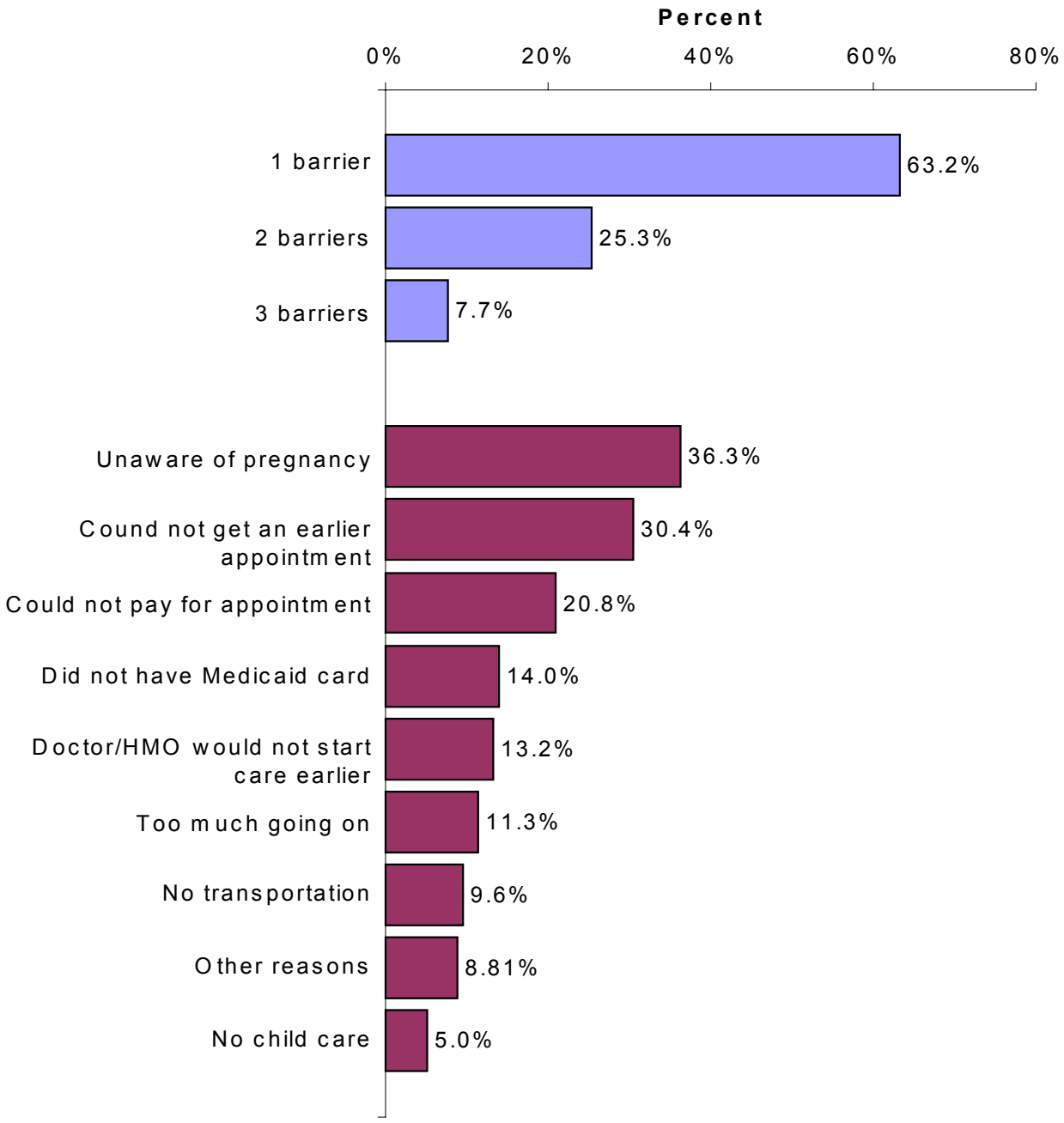
Figure 37:

Entry into prenatal care by pregnancy intention, Jul-Dec 2001 MI PRAMS



Prenatal Care

Figure 38:
Number and type of barriers to prenatal care,
Jul-Dec 2001 MI PRAMS



Prenatal Care

Figure 39:

Prevalence of prenatal care providers,

Jul-Dec 2001 MI PRAMS

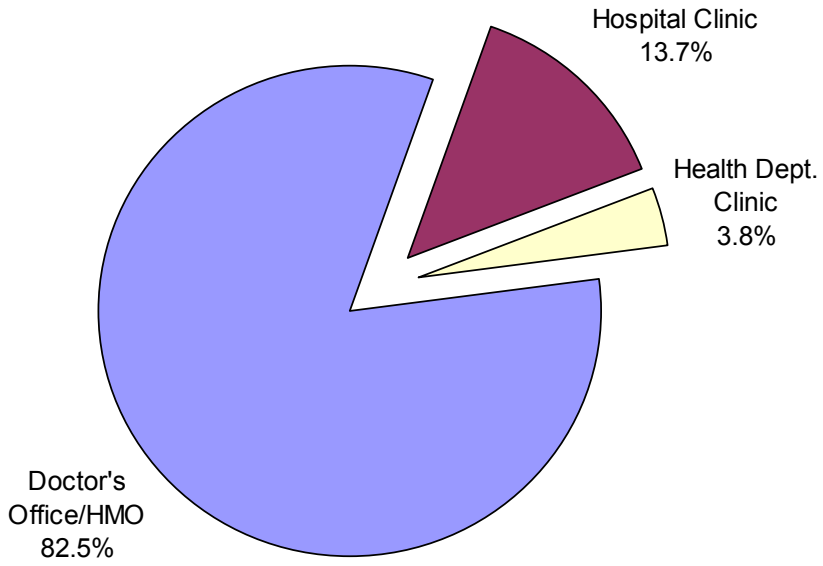
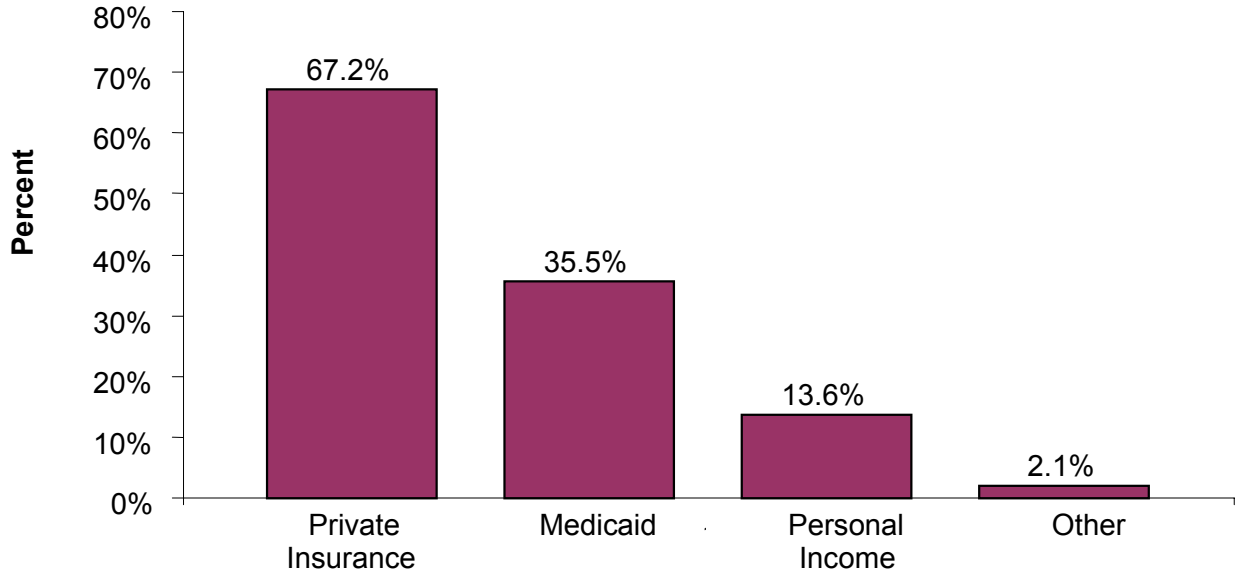


Figure 40:

Sources of payment for prenatal care,

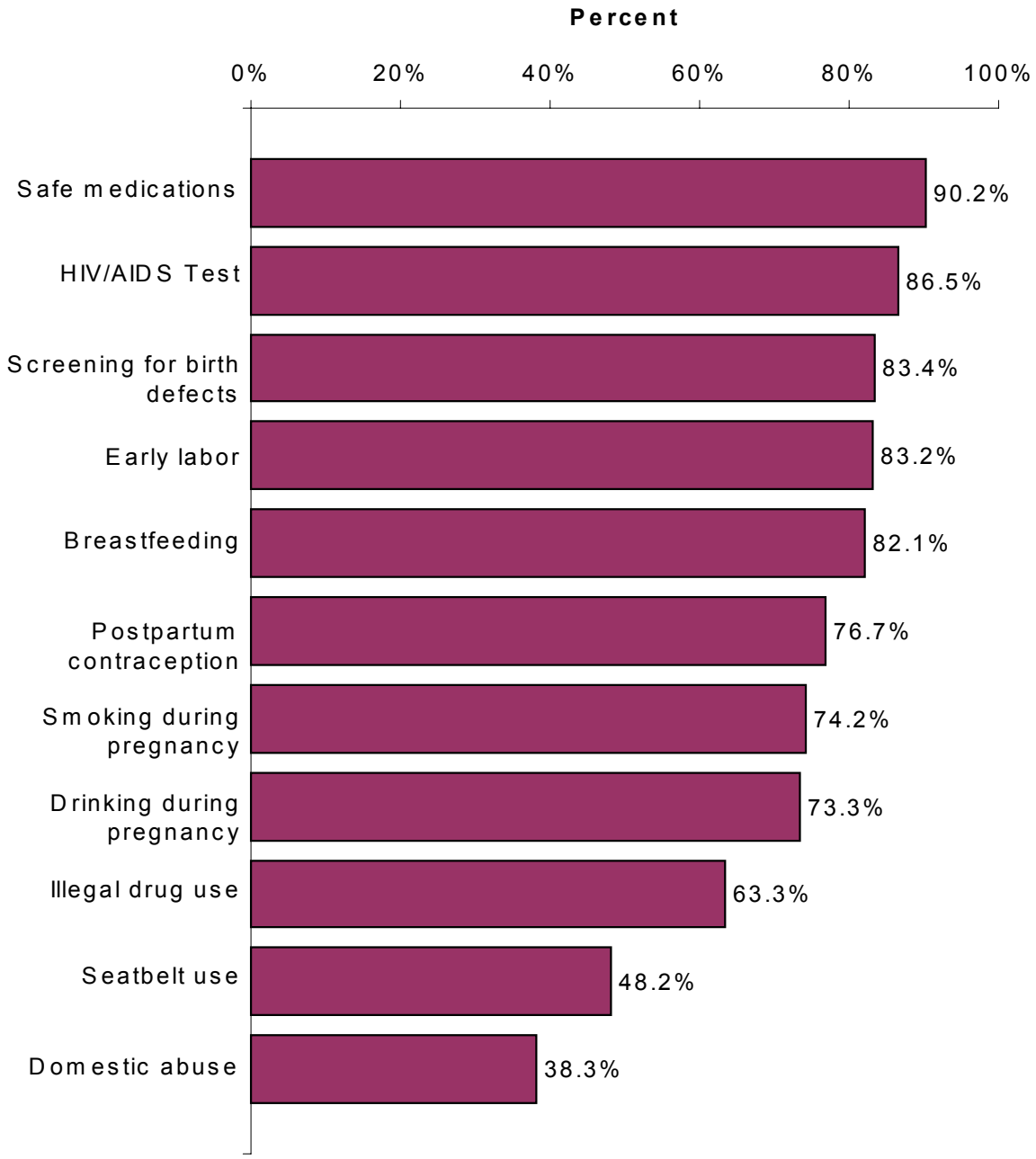
Jul-Dec 2001 MI PRAMS



Prenatal Care

Figure 41:

Topics discussed with a health care professional during prenatal care, Jul-Dec 2001 MI PRAMS



Breastfeeding

Definition:

Seven questions in the phase 4 PRAMS questionnaire address various topics surrounding breastfeeding. Question #46 gathers information on breastfeeding intention. It asks:

Question #46: During your most recent pregnancy, what did you think about breastfeeding your new baby?
_I knew I would breastfeed
_I thought I might breastfeed
_I knew I would not breastfeed
_I didn't know what to do about breastfeeding

Women who responded that they knew they were going to breastfeed were considered, "intending to breastfeed." Women who responded that they were not going to breastfeed were classified as, "intending not to breastfeed." Women who either thought they may breastfeed or didn't know what to do about breastfeeding were classified as being "unsure about breastfeeding".

Information regarding breastfeeding initiation and duration was derived from questions #47, #49, #51, and #52.

Question #47: Did you ever breastfeed or pump breast milk to feed your new baby after delivery?
_No
_Yes

Those who answered No to question #47 were asked:

Question #48: What were your reasons for not breastfeeding your new baby?
_I had other children to take care of
_I had too many household duties
_I didn't like breastfeeding
_I didn't want to be tied down
_I was embarrassed to breastfeed
_I went back to school or work
_My husband or partner didn't want me to breastfeed
_I wanted my body back to myself
_Other

Those who answered Yes to question #47 were asked:

Question #49: Are you still breastfeeding or feeding pumped breast milk to your new baby?
_No
_Yes

Those who answered No to question #49 were asked:

Question #50: What were your reasons for stopping breastfeeding?

_My baby had difficulty nursing
_Breast milk alone did not satisfy my baby
_I thought my baby was not gaining enough weight
_My baby became sick and could not breastfeed
_My nipples were sore, cracked, or bleeding
_I thought I was not producing enough milk
_I had too many household duties
_I felt it was the right time to stop breastfeeding
_I became sick and could not breastfeed
_I went back to work or school
_My husband or partner wanted me to stop breastfeeding
_Other

Question #51: How many weeks or months did you breastfeed or pump breast milk to feed your baby?

Question #52: How old was your baby the first time you fed him or her anything besides breast milk (Include formula, baby food, juice, cow's milk, water, sugar water, or anything else you feed your baby)?

Results:

Of the women who delivered a live-born infant, 54.6% planned on breastfeeding their infant, 18.5% thought that they may breastfeed, 23.5% planned on not breastfeeding their infant, and 3.4% were unsure about breastfeeding (*Fig. #42*).

At the time when surveyed, 32.5% of women were still breastfeeding their infant (*Fig. #43*). Approximately one-third of mothers (31.0%) breastfed their infant for longer then a week, but had finished by the time they were surveyed (four to six months postpartum). Women who did not breastfeed their infant comprised another third (31.4%) and 5.2% breastfed for less then a week (*Fig. #43*).

Women less then 18 years of age had the highest frequency of not breastfeeding at all (58.9%), followed by women older than 40, and women 18-19 years of age (*Fig. #44*). Women most likely to breastfeed were women between the ages of 30-39.

Black, non-Hispanic women are the least likely to breastfeed their infant, with 53.0% of women not breastfeeding (*Fig. #45*). The more educated a woman the more likely she will breastfeed her infant with 53.6% of women with a college degree still breastfeeding infant at the time of the survey (*Table #27b*). Approximately half of women without a high school diploma (53.3%) did not breastfeed (*Fig. #46*).

Breastfeeding duration was associated with varying maternal characteristics. The older the woman, the longer she will breastfeed. The average time women 35-39 years breastfed was 8.0 weeks, while women less then 18 years of age breastfed for only 4.3 weeks (*Fig. #47*). The data illustrates that non-Hispanic White women breastfeed for the longest duration, at approximately 7.3 weeks (*Fig. #48*). The more educated a mother the longer she will breastfeed with women holding a college degree or greater breastfeeding their infant for the longest, at 8.0 weeks (*Fig. #49*).

The most commonly stated reason for not breastfeeding an infant is because the mother did not like breastfeeding (40.1%), followed by needing to care for other children (27.0%), and returning to school/work (23.1%) (*Fig. #50*). Other reasons for not breastfeeding include women who are too embarrassed, while others wanted their body back. The most common barriers for discontinuing breastfeeding were the beliefs she was not producing enough milk (32.5%), the infant had difficulty nursing (29.2%), and the breast milk alone did not satisfy the infant (28.9%) (*Fig. #51*). Other barriers include returning to work/school, nipples were sore and cracked, and the mother felt it was time to discontinue breastfeeding.

Public Health Implications:

Prenatal care providers and health care workers should continue to engage all pregnant mothers in a discussion of the benefits of breastfeeding, and should target women who are black and non-Hispanic, as well as women who are less than twenty, over the age of forty, and women without high school diplomas.

Lactation consultants ought to be made available to all new mothers in the hospital to give assistance and information to help them through the first crucial days.

One in five women who gave birth thought they might breastfeed, but were undecided. Breastfeeding conversations throughout pregnancy, and exposure to breastfeeding in prenatal groups and other venues may help gain community acceptance for breastfeeding. Communities can promote breastfeeding-friendly workplaces, parks, day-care centers, and other facilities to promote the practice.

Postpartum care which supports breastfeeding should continue after the woman returns home from the hospital so that the most common barriers for breastfeeding can be addressed such as a mother thinking she was not producing enough milk (32.5%), the infant had difficulty nursing (29.2%), and the belief that breast milk alone did not satisfy the infant (28.9%).

Reference Tables: #24 - #30

Breastfeeding

Figure 42:

Pre-delivery breastfeeding planning,

Jul-Dec 2001 MI PRAMS

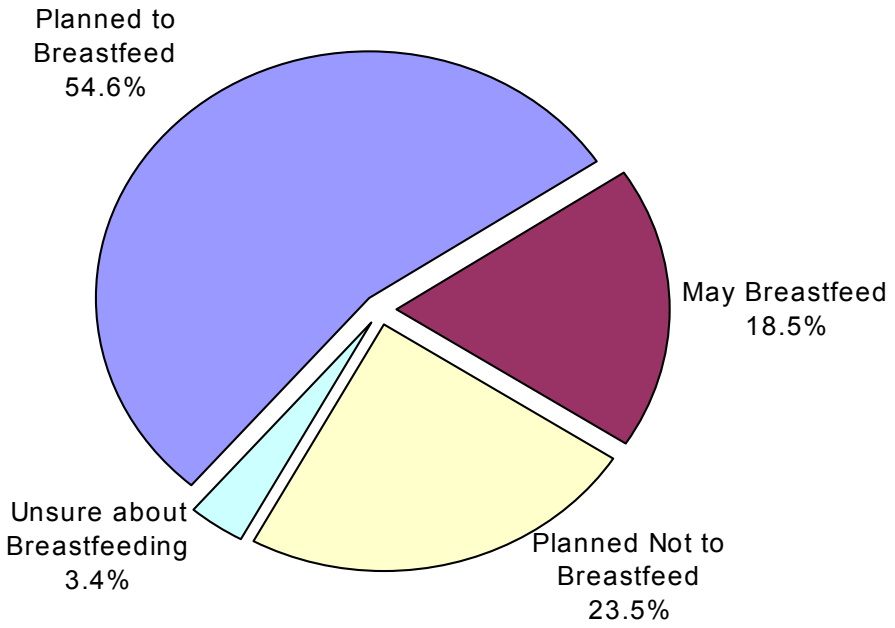
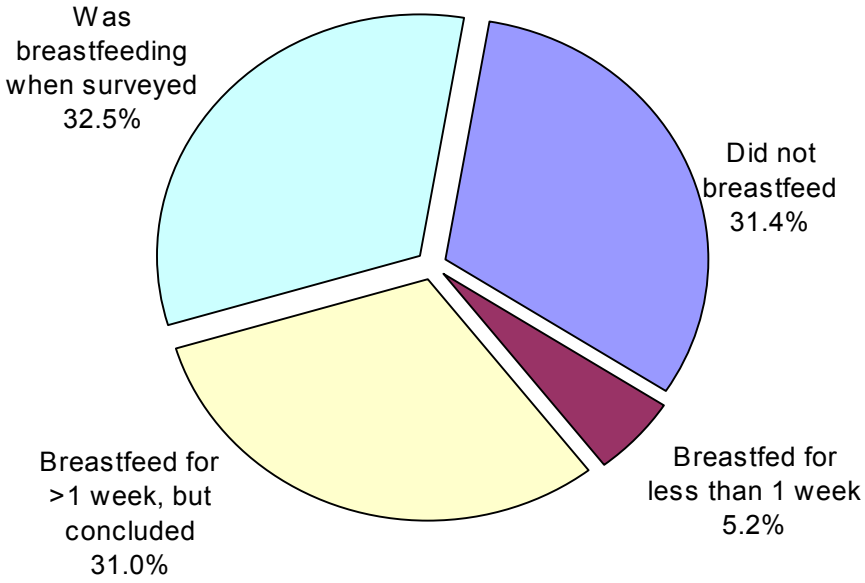


Figure 43:

Prevalence of breastfeeding behavior,

Jul-Dec 2001 MI PRAMS



Breastfeeding

Figure 44:

Prevalence of women who did not breastfeed by maternal age,

Jul-Dec 2001 MI PRAMS

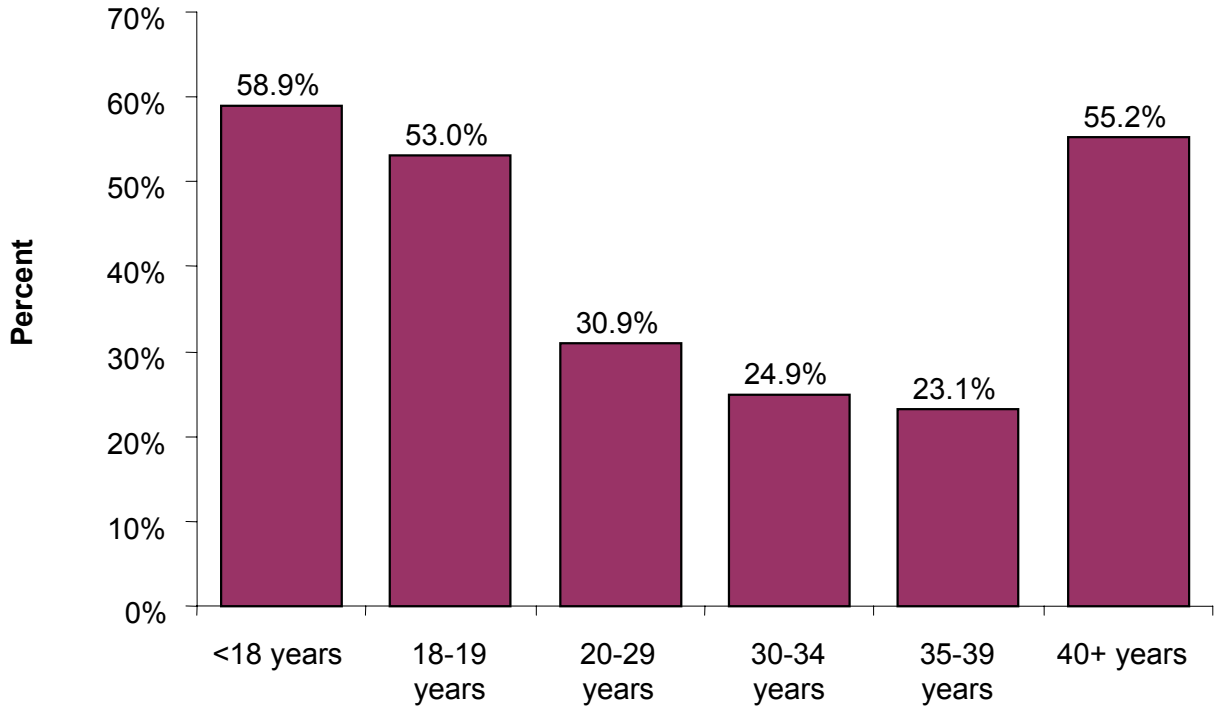
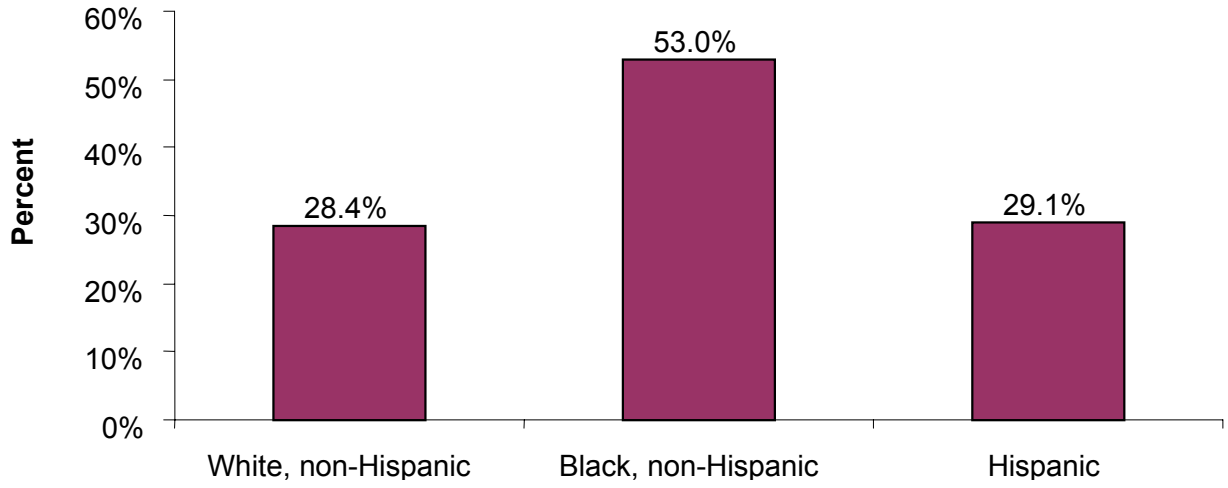


Figure 45:

Prevalence of women who did not breastfeed maternal race/ethnicity,

Jul-Dec 2001 MI PRAMS



*Statistics for 'American Indian/Alaskan Native,' 'Asian/Pacific Islander,' and 'Other' omitted due to small sample size.

Breastfeeding

Figure 46:

Prevalence of women who did not breastfeed by maternal education,

Jul-Dec 2001 MI PRAMS

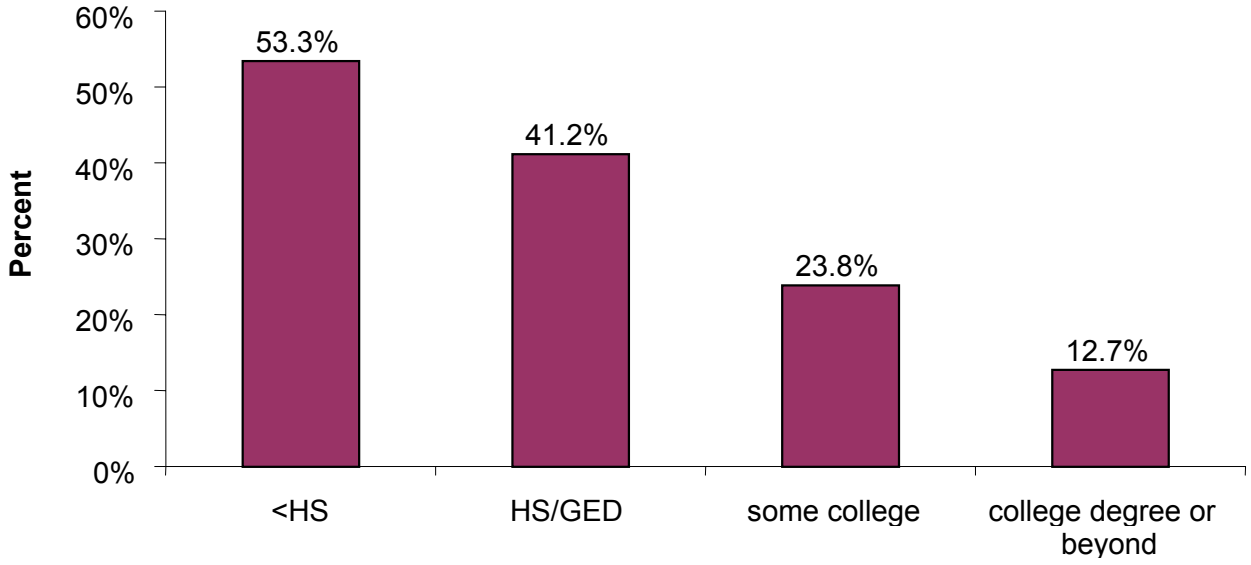
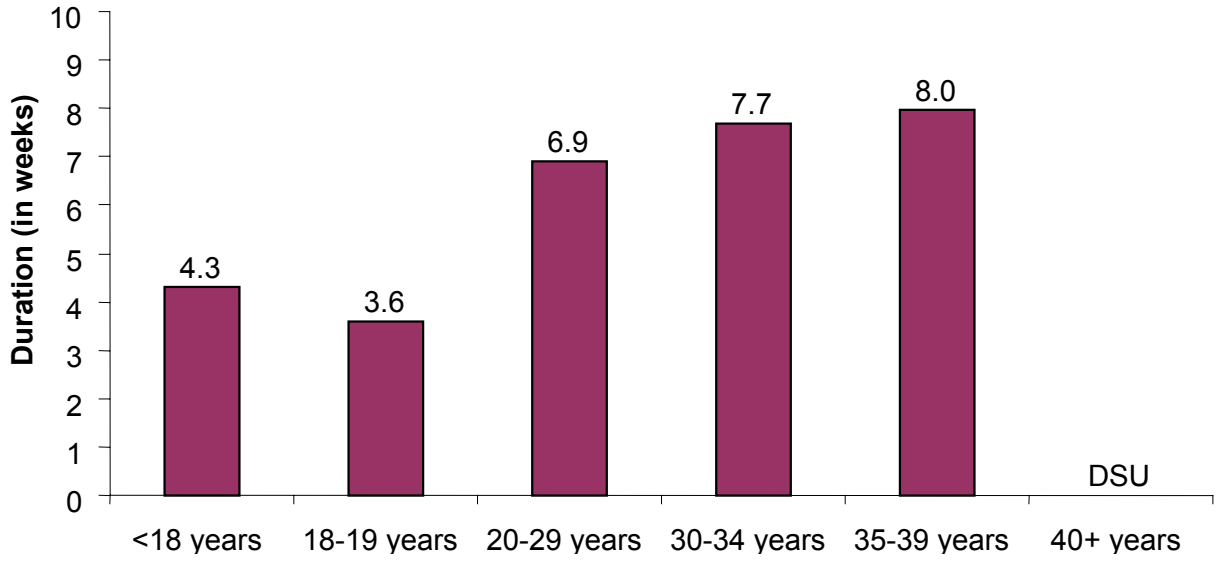


Figure 47:

Average breastfeeding duration, among women who breastfed for longer than a week, but discontinued breastfeeding before being surveyed by maternal age,

Jul-Dec 2001 MI PRAMS



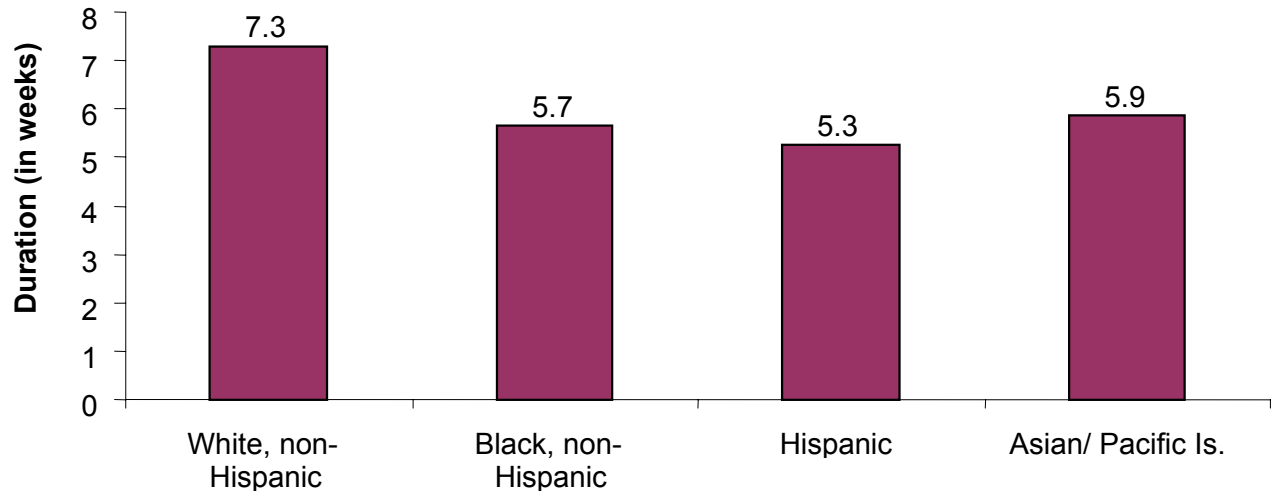
*DSU: data statistically unreliable

Breastfeeding

Figure 48:

Average breastfeeding duration, among women who breastfed for longer than a week, but discontinued breastfeeding before being surveyed, by maternal race/ethnicity,

Jul-Dec 2001 MI PRAMS

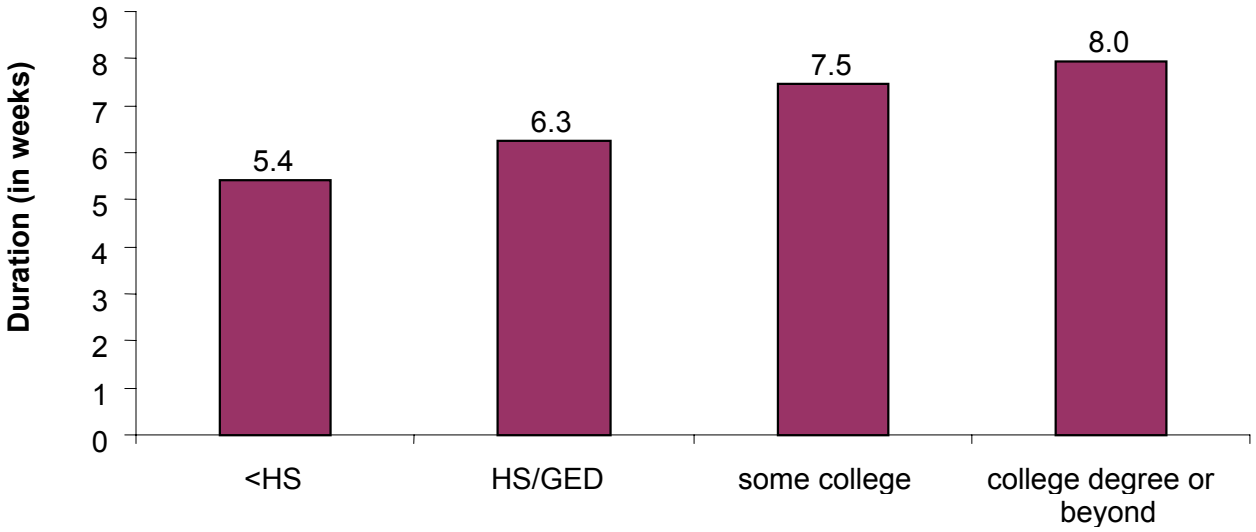


*statistics for 'American Indian/Alaskan Native' and 'Other' omitted due to small sample size.

Figure 49:

Average breastfeeding duration, among women who breastfed for longer than a week, but discontinued breastfeeding before being surveyed, by maternal education,

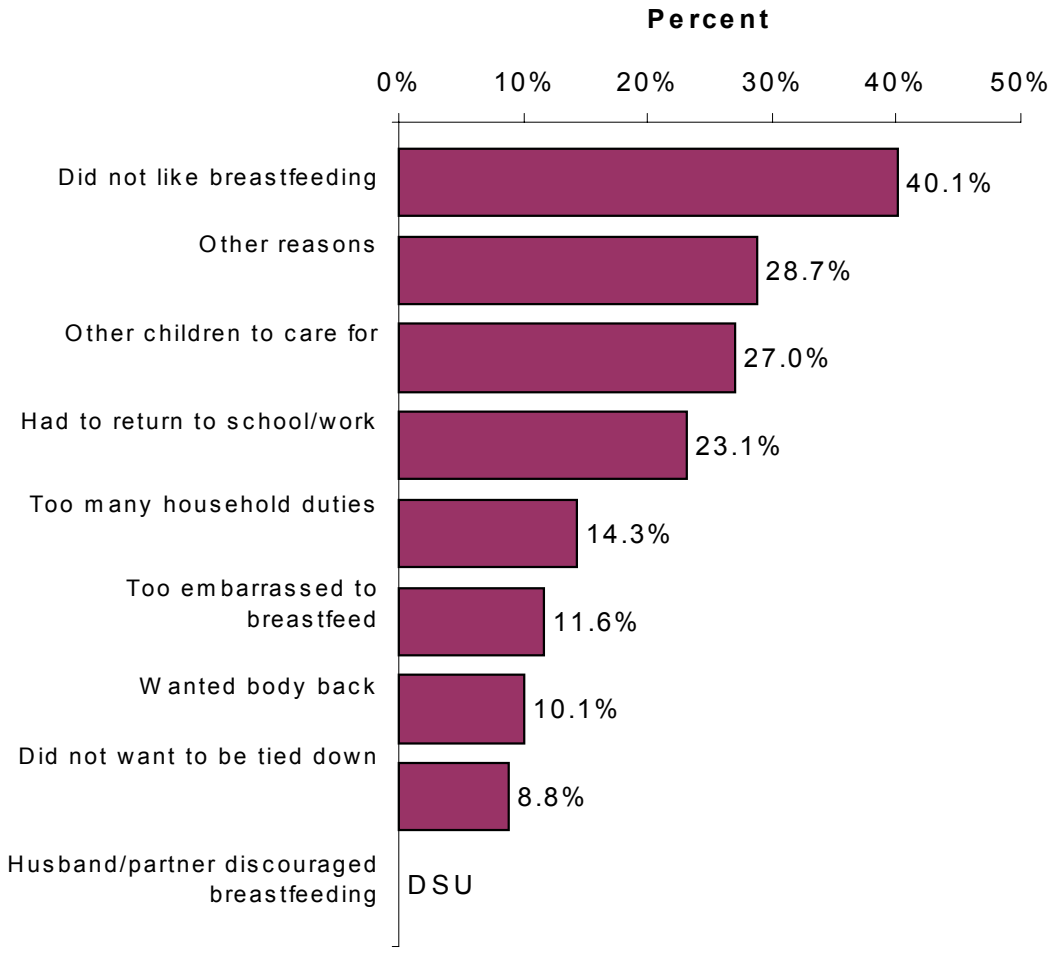
Jul-Dec 2001 MI PRAMS



Breastfeeding

Figure 50:

Barriers to breastfeeding initiation among women who never breastfed,
Jul-Dec 2001 MI PRAMS



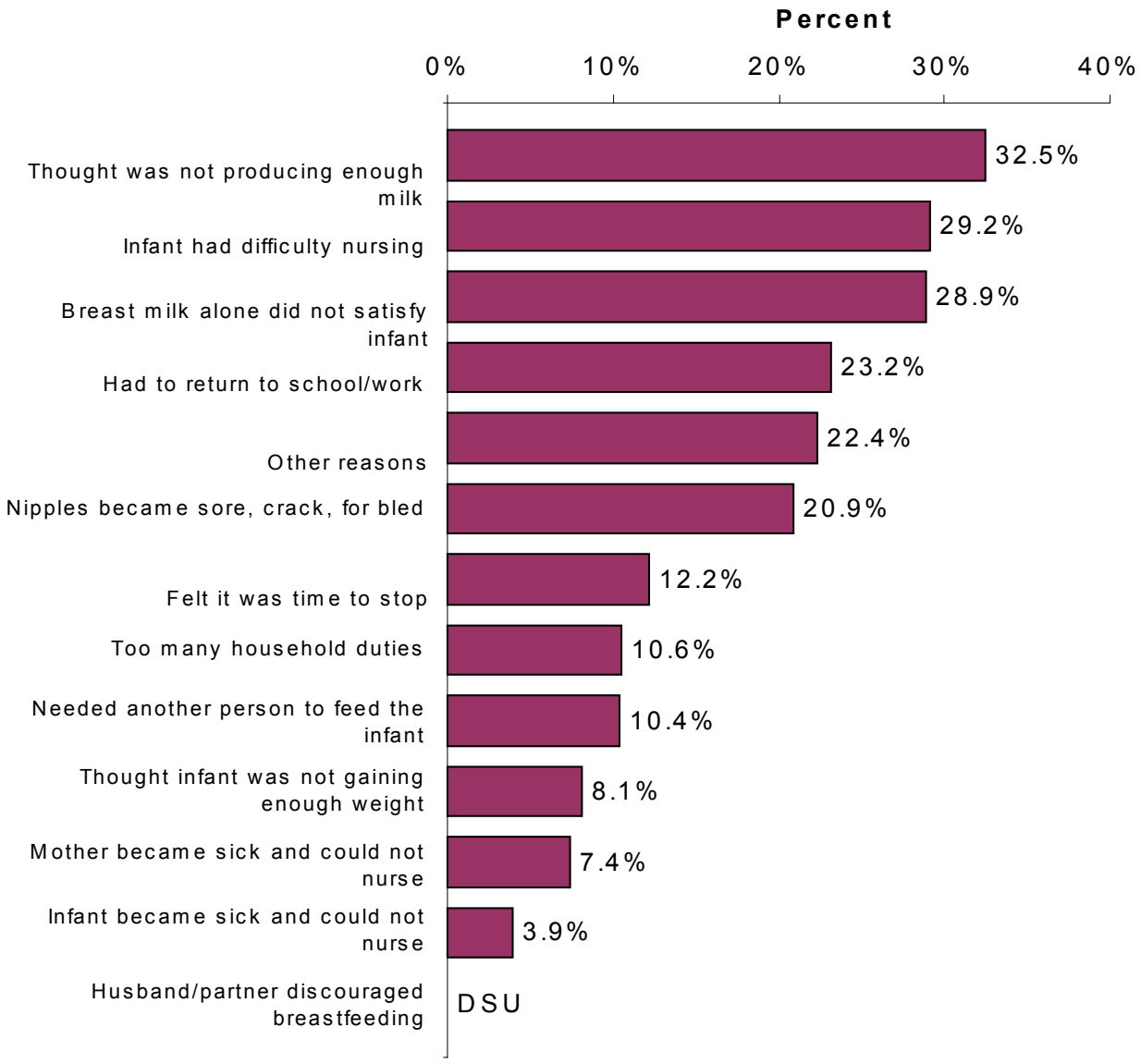
*DSU: data statistically unreliable

Breastfeeding

Figure 51:

Barriers to breastfeeding continuation among women who breastfed for longer than a week, but discontinued breastfeeding before being surveyed,

Jul-Dec 2001 MI PRAMS



*DSU: data statistically unreliable

Substance Abuse: Tobacco Use

Definition:

An initial question, question #25, was asked to differentiate women who have recently smoked and women who had not.

Question #25: Have you smoked at least 100 cigarettes in the past 2 years?
_No
_Yes

Women who answered 'no' to question #25 skipped the rest of the maternal smoking questions. Women who answered 'Yes' to question #25 were asked the following three questions:

Question #26: In the 3 months before you got pregnant how many cigarettes or packs of cigarettes did you smoke on an average day? (a pack has 20 cigarettes)
 _# Cigarettes
 _# Packs
_ Less than 1 cigarette a day
_I didn't smoke
_I don't know
Question #27: In the last 3 months you were pregnant how many cigarettes or packs of cigarettes did you smoke on an average day?
 _# Cigarettes
 _# Packs
_ Less than 1 cigarette a day
_I didn't smoke
_I don't know
Question #28: How many cigarettes or packs of cigarettes do you smoke on an average day now?
 _# Cigarettes
 _# Packs
_ Less than 1 cigarette a day
_I didn't smoke
_I don't know

A nonsmoker is defined as a woman who was not smoking during either period of time including women who answered no to question #25. A smoker who quit was a woman who indicated that she smoked during the initial time period, but was not smoking during the second time period. A smoker (reduced # cigarettes) was a woman who indicated that she smoked during the initial time period, but reduced the number of cigarettes in the second period. A smoker (# cigarettes same or more) is defined as a woman who indicated that she smoked during the initial time period, but maintained or increased the number of cigarettes in the second period. A nonsmoker who began smoking was a woman who reported not smoking during the first time period, but who indicated smoking in the second. When analyzing women who smoked in the last three months of their pregnancy, women who indicated that they did not smoke then or who indicated that they did not smoke at all were categorized as not smoking in the last three months of their pregnancy.

Women who reported smoking cigarettes, regardless of the amount, were classified as smokers. Smoking behavior was compared as such: during pregnancy with behavior before pregnancy, postpartum behavior with smoking during pregnancy, or postpartum behavior with pre-pregnancy behavior.

Results:

When comparing smoking behavior during pregnancy with the pre-pregnancy period, a majority of women were found to be nonsmokers (70.6%) (*Fig. #52*). The next most prevalent group were smokers who reduced their number of cigarettes (13.4%), followed by smokers who quit (9.6%), and smokers who either did not change or increased the number of cigarettes they smoked (6.0%). Smoking during the last three months of pregnancy was most prevalent among women below the age of 19 and above the age of 39 (*Fig. #53*). The prevalence of smoking in the last three months of pregnancy was above 55% for women under the age of 19 years old and for women age 40 or more it was 31.7% whereas for women age 20-39 years the prevalence of smoking ranged from 9.7% to 20.7% (*Fig. #53*). Non-Hispanic White women, women with less than a high school diploma, and women who were on Medicaid at any time also had high prevalences of smoking in the last three months of pregnancy. The prevalence of smoking was 22.1% among non-Hispanic White women (*Fig. #54*). Almost half of the women with less than a high school diploma (41.9%), responded that they smoked in their third trimester (*Fig. #55*). The prevalence of smoking among women who participated in Medicaid prior to their pregnancy, had Medicaid-paid prenatal care, or a Medicaid-paid delivery was higher compared to women who were never on Medicaid, among women who indicated smoking in the last three months of their pregnancy (*Fig. #56*).

Smoking reduction during pregnancy does not usually equate to a permanent decline. Although a majority of women remain non-smokers, 17.5% of women indicated that they smoked the same amount or more cigarettes after their pregnancy than during their pregnancy (*Fig. #57*). Also, 4.7% of women who were non-smokers during their pregnancy began smoking postpartum (*Fig. #57*).

Public Health Implications:

Twenty-nine percent of women who delivered a live birth in 2001 smoked prior to their pregnancy, with 20% of these women continuing to smoke during their pregnancy, 46% reducing the amount of their smoking, and 33% quitting. Information relayed during the pregnancy should focus on the effects of smoking on infant birthweight and other adverse birth outcomes. Therefore smoking cessation programs should be offered as a components of the prenatal visits, following the "Stages of Change" model.

Although the majority of women reported not smoking in the third trimester, an unacceptably high percentage of women continued to smoke. Smoking cessation programs should target women less than 20 years of age, non-Hispanic Whites, Medicaid participants, and women with less than a high school diploma. Ideally the desire of smoking cessation programs is to encourage participants to quit smoking permanently. Among women surveyed, smokers who had quit during pregnancy tended to relapse during the postpartum period.

Reference Tables: #31 - #33

Substance Abuse: Tobacco Use

Figure 52:

Prevalence of smoking behavior during pregnancy (compared with pre-pregnancy behavior),

2001 Jul-Dec MI PRAMS

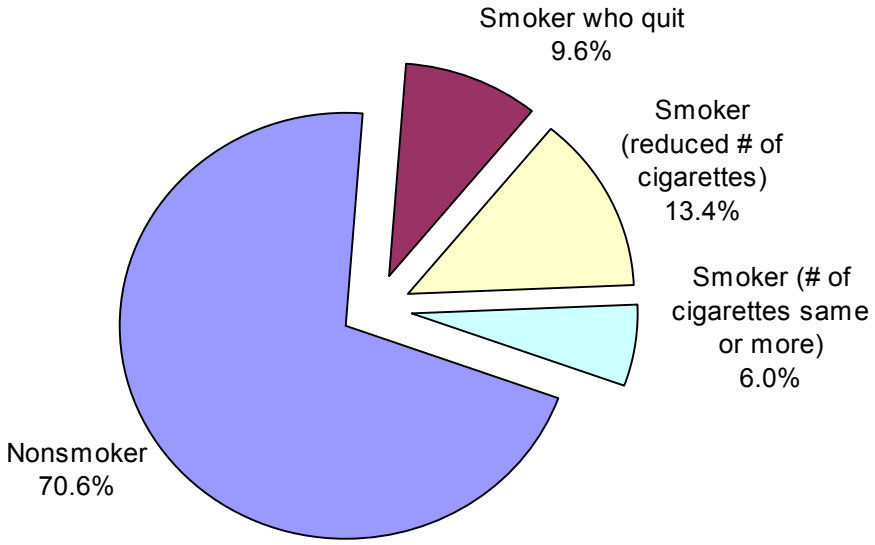
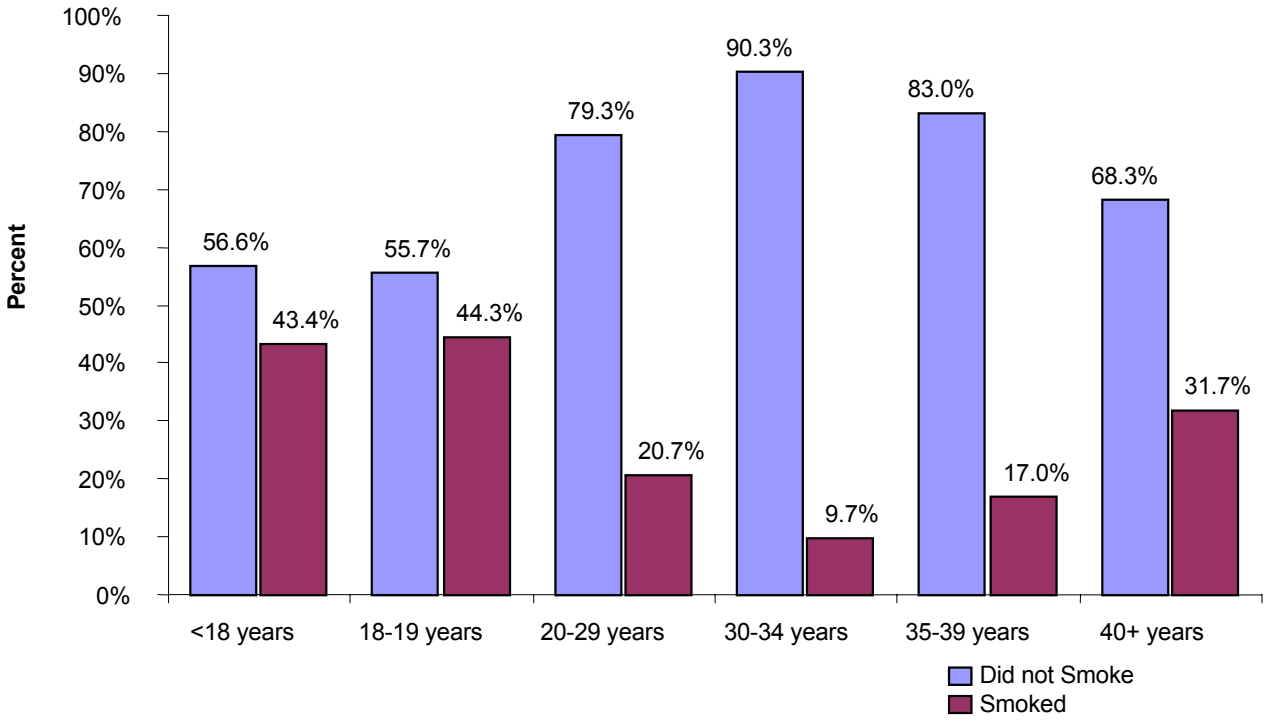


Figure 53:

Prevalence of smoking status in the last three months of pregnancy by maternal age,

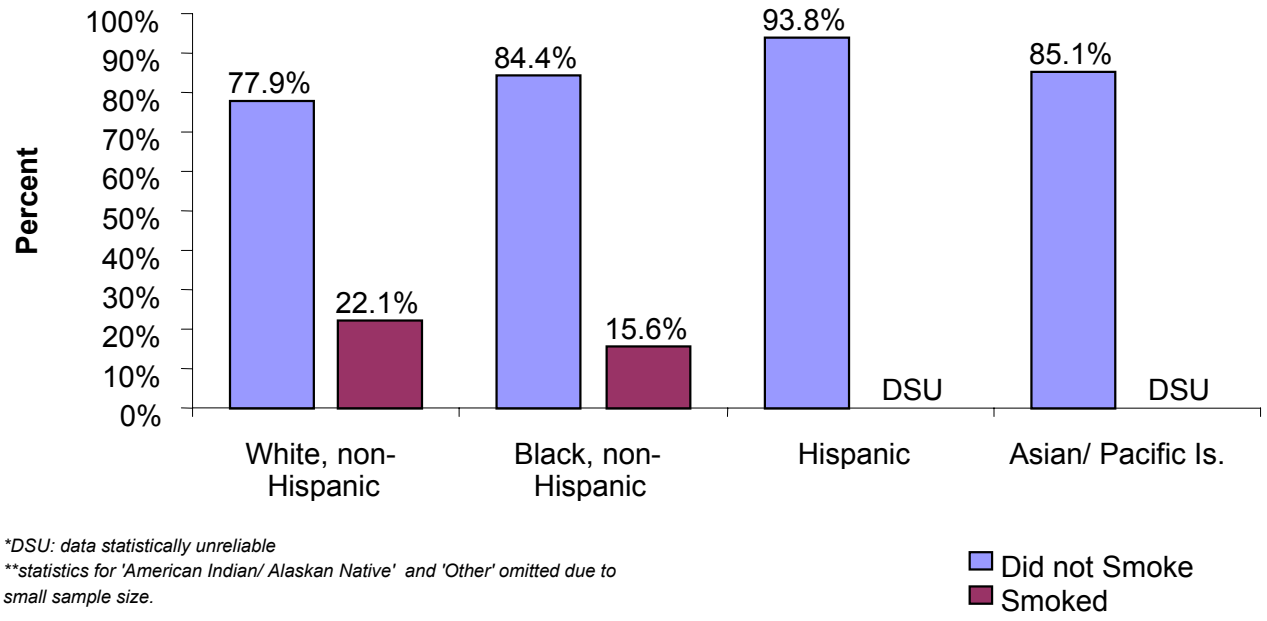
Jul-Dec 2001 MI PRAMS



Substance Abuse: Tobacco Use

Figure 54

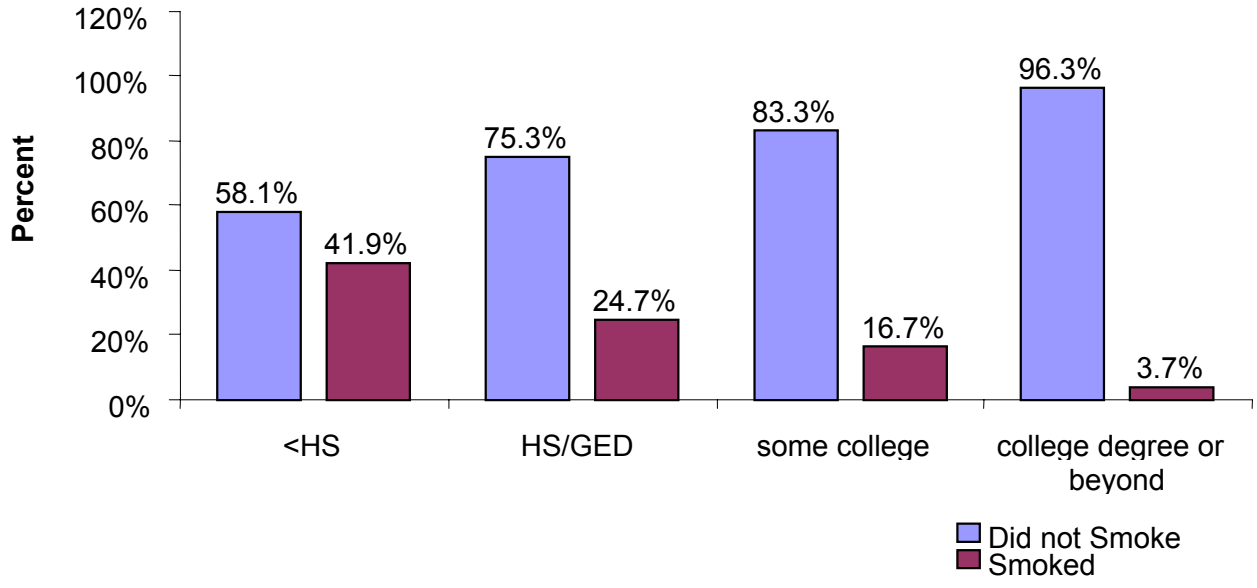
Prevalence of smoking behavior in the last three months of pregnancy by maternal race/ethnicity, 2001 Jul-Dec MI PRAMS



*DSU: data statistically unreliable
**statistics for 'American Indian/ Alaskan Native' and 'Other' omitted due to small sample size.

Figure 55:

Prevalence of smoking behavior in the last three months of pregnancy by maternal education Jul-Dec 2001 MI PRAMS



Substance Abuse: Tobacco Use

Figure 56:

Prevalence of smoking in the last three months of pregnancy by Medicaid participation, Jul-Dec 2001 MI PRAMS

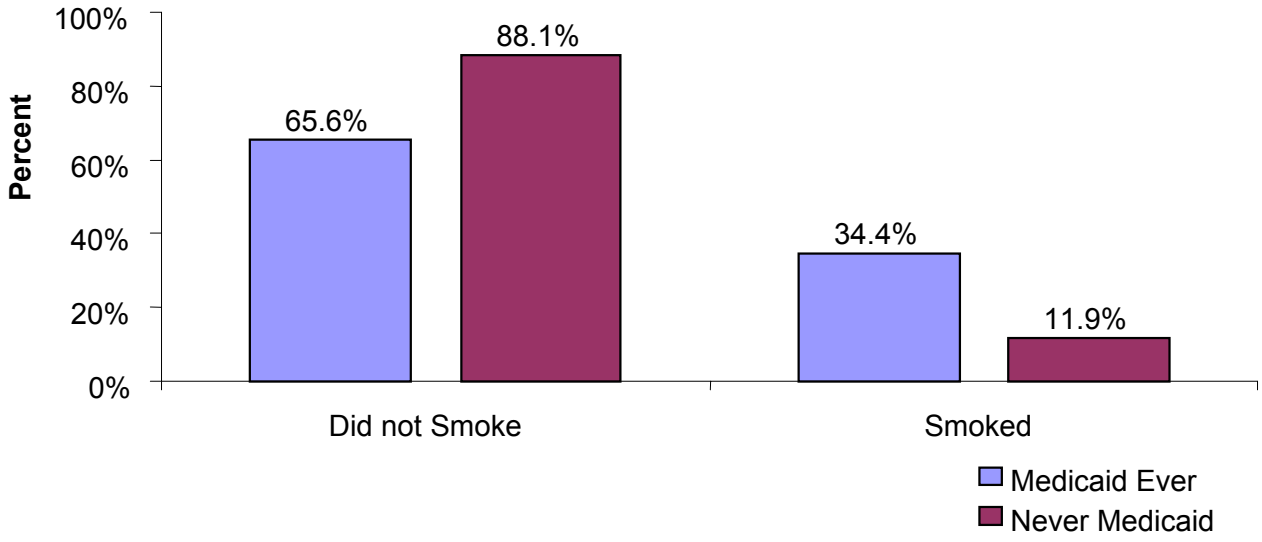
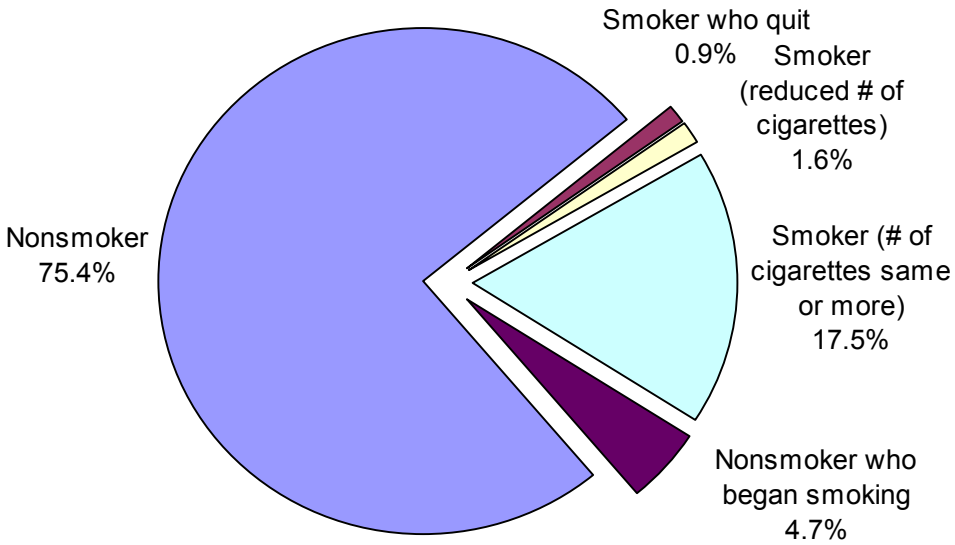


Figure 57:

Prevalence of smoking behavior in the postpartum period (compared with pre-pregnancy behavior), Jul-Dec 2001 MI PRAMS



Substance Abuse: Alcohol Use

Definition:

Information on alcohol consumption and binge drinking are the focus of five questions on the PRAMS questionnaire. Question #29 was used to screen for drinking behavior.

Question #29: Have you had any alcoholic drinks in the past 2 years? (a drink is one glass of wine, wine cooler, can or bottle of beer, shot, or mixed drink)
_No
_Yes

Women who responded 'No' to that question skipped the rest of the alcohol consumption questions. Women who responded 'Yes' were asked the following questions:

Question #30a: During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?
_I didn't drink then
_Less than 1 drink a week
_1-3 drinks a week
_4-6 drinks a week
_7-13 drinks a week
_14 drinks or more a week
_I don't know
Question #30b: During the 3 months before you got pregnant, how many times a week did you drink5 alcoholic drinks or more in one sitting?
 _# Times
_I didn't drink then
_I don't know
Question #31a: During the last3 months of your pregnancy, how many alcoholic drinks did you have in an average week?
_I didn't drink then
_Less than 1 drink a week
_1-3 drinks a week
_4-6 drinks a week
_7-13 drinks a week
_14 drinks or more a week
_I don't know
Question #31b: During the last3 months of your pregnancy, how many times a week did you drink5 alcoholic drinks or more in one sitting?
 _# Times
_I didn't drink then
_I don't know

Results:

The majority of women, when comparing women's pregnancy drinking behavior with their pre-pregnancy behavior, were classified as either nondrinkers or drinkers who quit (43.7% and 51.7%, respectively) (*Fig. #58*). Due to the small number of women who drank alcoholic beverages during pregnancy, stratification by demographic characteristics was not possible.

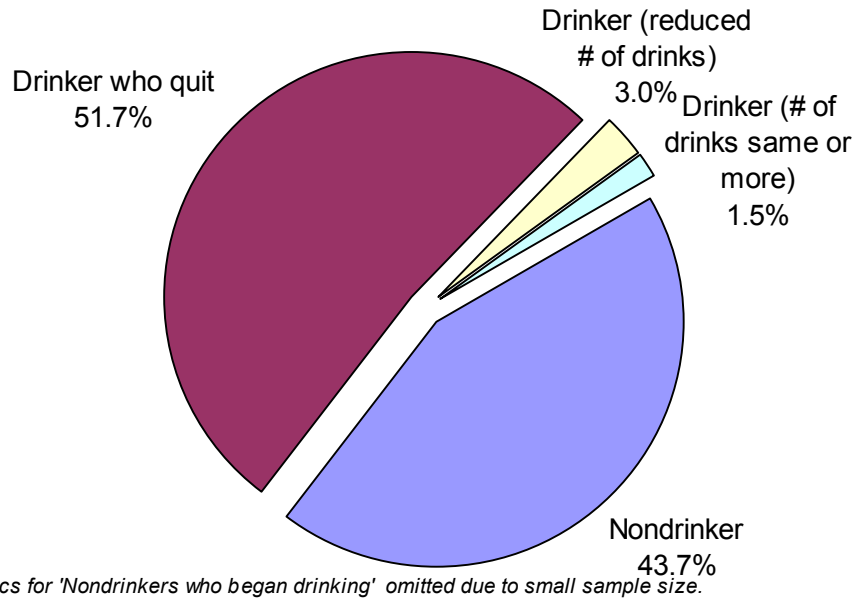
Public Health Implications:

Fifty-six percent of women drank prior to their pregnancy. Five percent of those women reduced their drinking, while 2% continued drinking the same amount, and 92% of the women stopped their drinking behaviors. Preconceptual and prenatal education should continue to focus on the risks of Fetal Alcohol Syndrome, and prenatal providers can use simple assessment tools such as the T-ACE to identify risk drinking among pregnant women in clinical settings.

Substance Abuse: Alcohol Use

Figure 58:

Prevalence of alcohol consumption during pregnancy (compared with pre-pregnancy behavior), Jul-Dec 2001 MI PRAMS



**statistics for 'Nondrinkers who began drinking' omitted due to small sample size.*

Infant Sleep

Definition:

Information regarding infant sleeping behavior is captured by two questions: one addresses sleeping position and the other speaks to co-sleeping. Question #54, asked of women whose infants were alive at the time the survey was administered, reads:

Question #54: How do you most often lay your baby down to sleep now?
_On his or her side
_On his or her back
_On his or her stomach

Details on co-sleeping practice, having the infant sleep with another person in the bed, were also asked of women whose infant was alive when the survey was administered. This topic is addressed by one question, which asks:

Question #55: How often does your new baby sleep in the same bed with you or anyone else?
_Always
_Almost always
_Sometimes
_Rarely
_Never

Infants were classified as "Always sleeps alone" if their mothers responded that they never slept in the same bed with someone else. Infants, of mothers who indicated that their infant sometimes or rarely slept with another person, were classified as, "sometimes sleeps alone." Mothers of infants classified under "Never sleeps alone," were women who indicated that their infant always or almost always sleeps in the same bed with someone else.

Results:

A majority of PRAMS respondents (71.4%) reported placing their infants to sleep on their backs (*Fig. #59*). The prevalence of infants sleeping on his/her back increased with maternal age, from 51.9% among women less than 18 years old to 87.0% among women 35-39 years old. Fewer women age 40 years or more reported placing their infant to sleep on their back when compared to women between the ages of 20-39 years (*Fig. #60*). Back-sleeping position was highest among non-Hispanic Whites (75.2%), and Hispanics (75.9%) (*Fig. #61*). As maternal education increased, the proportion of infants placed to sleep on their backs increased, from 65.4% among women with less than a high school diploma to 77.9% among women with at least a college degree (*Fig. #62*). Back-sleeping position was also slightly more prevalent among women who were never on Medicaid when compared to women who either participated in Medicaid before their pregnancy, has Medicaid-paid prenatal care, or a Medicaid-paid delivery (*Fig. #63*).

A majority of women reported their infant either always or sometimes sleeps alone (36.4% and 43.6%, respectively) (*Fig. #64*). The prevalence of women who responded that their infant sometimes sleeps alone was highest among women under the age of 18 years whereas the prevalence of women responding that their infant never sleeps alone was

highest among women age 40 or more (*Fig. #65*). Non-Hispanic White women reported the highest prevalence in the category of 'infant always sleeps alone' (40.9%); non-Hispanic Blacks for the category 'infant sometimes sleeps alone' (45.4%); and Asian/Pacific Islanders for 'infant never sleeps alone' (43.8%) (*Fig. #66*). Women with a college degree or more had the highest prevalence among women who responded that their infant sometimes sleeps alone while women with less than a high school diploma reported the highest prevalence among the group of women responding 'never sleeps alone' (*Fig. #67*).

Public Health Implications:

The majority of mothers, regardless of demographic characteristics, placed their infants to sleep on their back. Women who were less likely to place their infant on their back and who should be targeted with "Back to Sleep" educational messages are women who are less than 20 years of age, Blacks or Asian/PI, and women who had less than a HS diploma.

Approximately, 20% of all mothers also indicated that their infant never sleeps alone. This population should be targeted for "safe sleep" messages and included women who were 18-19 years of age or over 40, had less than a HS diploma, women who were Black non-Hispanic, Hispanic, and Asian/Pacific Islanders.

Reference Tables: #38 - #41a

Infant Sleep

Figure 59:

Prevalence of infant sleep position,

Jul-Dec 2001 MI PRAMS

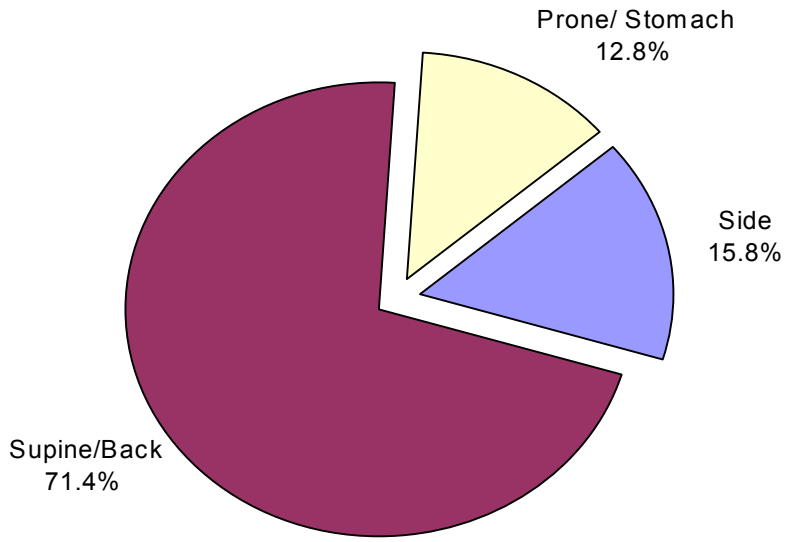
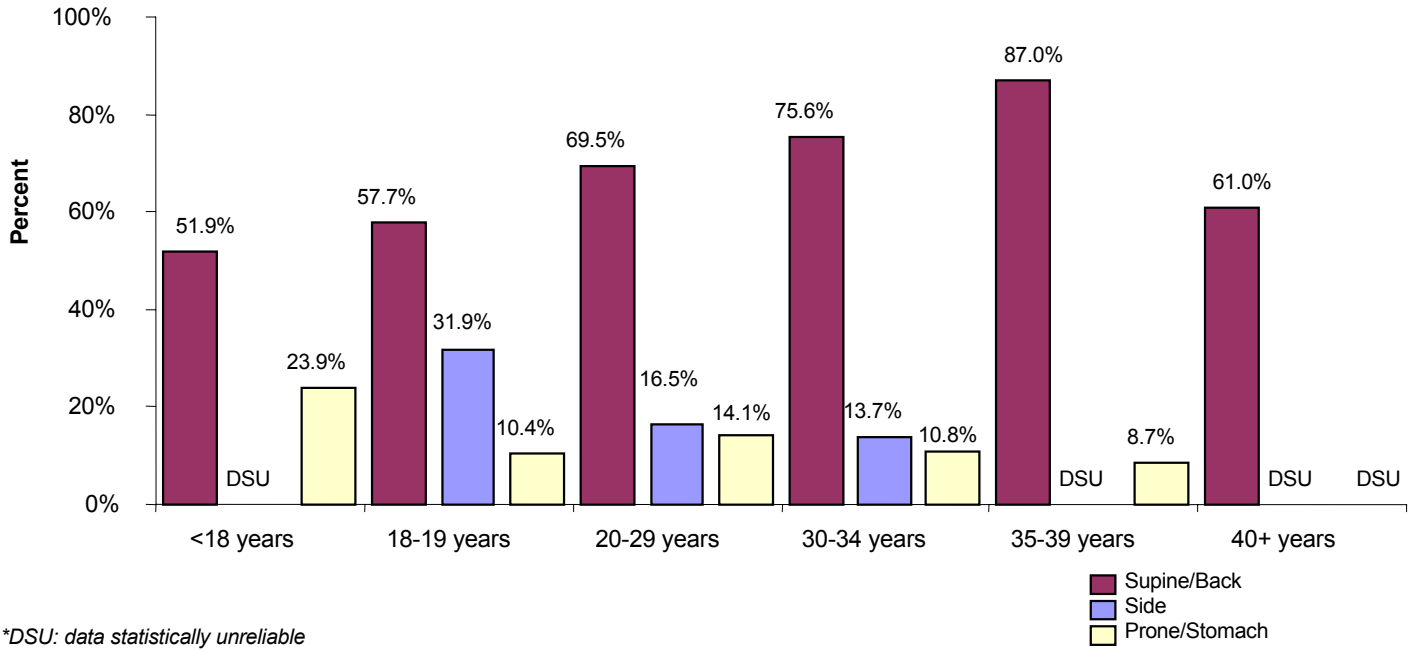


Figure 60:

Prevalence of infant sleep position by maternal age,

Jul-Dec 2001 MI PRAMS



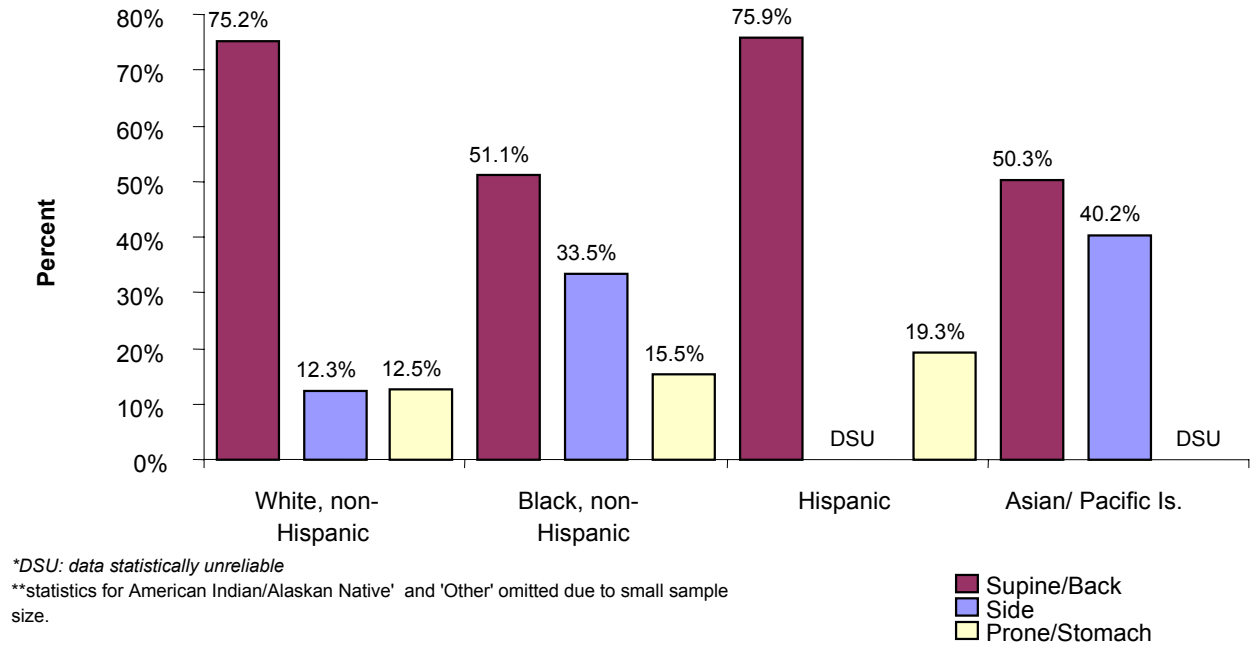
*DSU: data statistically unreliable

Infant Sleep

Figure 61:

Prevalence of infant sleep position by maternal race/ethnicity,

Jul-Dec 2001 MI PRAMS



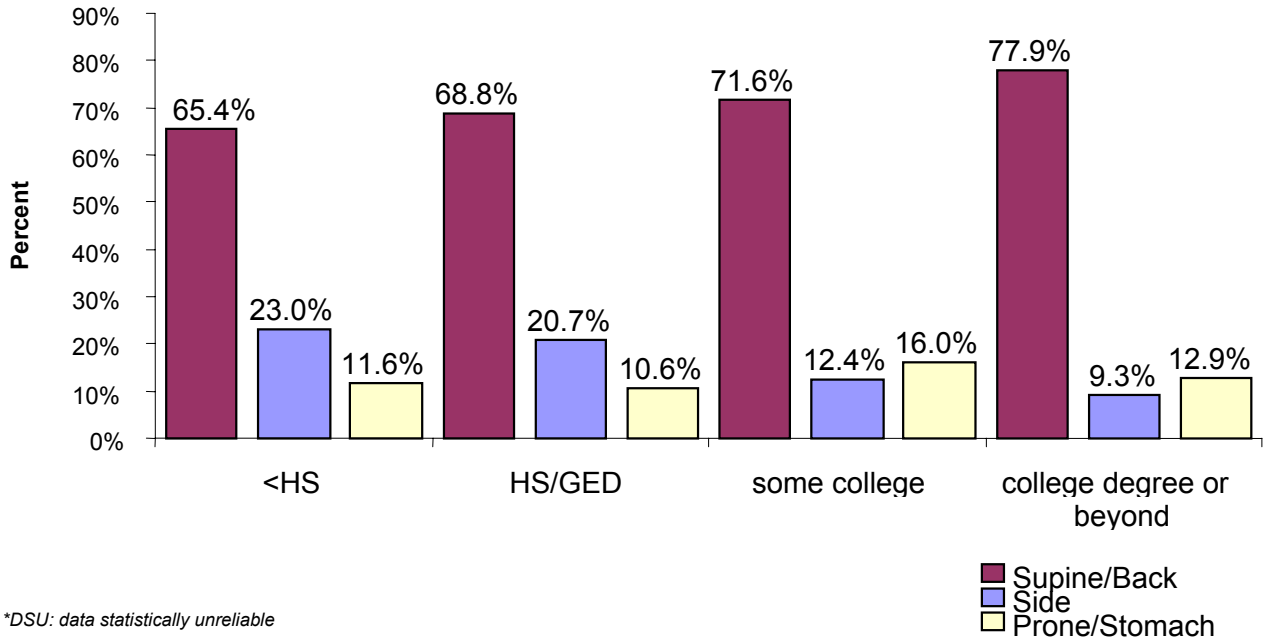
*DSU: data statistically unreliable

**statistics for American Indian/Alaskan Native' and 'Other' omitted due to small sample size.

Figure 62:

Prevalence of infant sleep position by maternal education,

Jul- Dec 2001 MI PRAMS



*DSU: data statistically unreliable

Infant Sleep

Figure 63:

Prevalence of infant sleep position by maternal insurance status,

Jul-Dec 2001 MI PRAMS

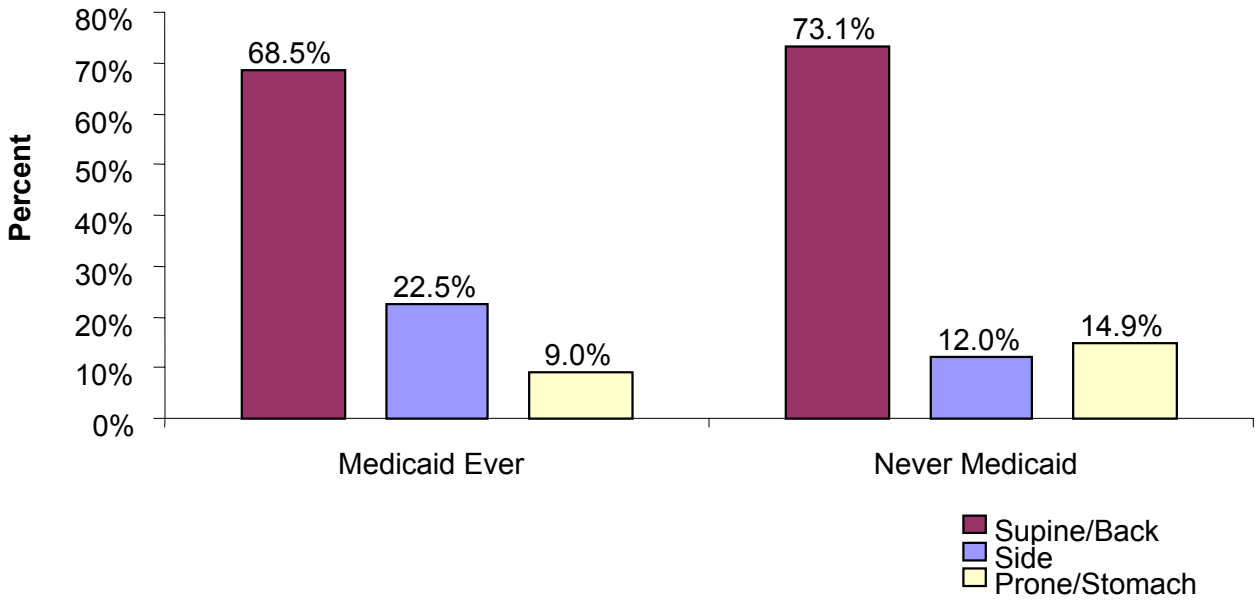
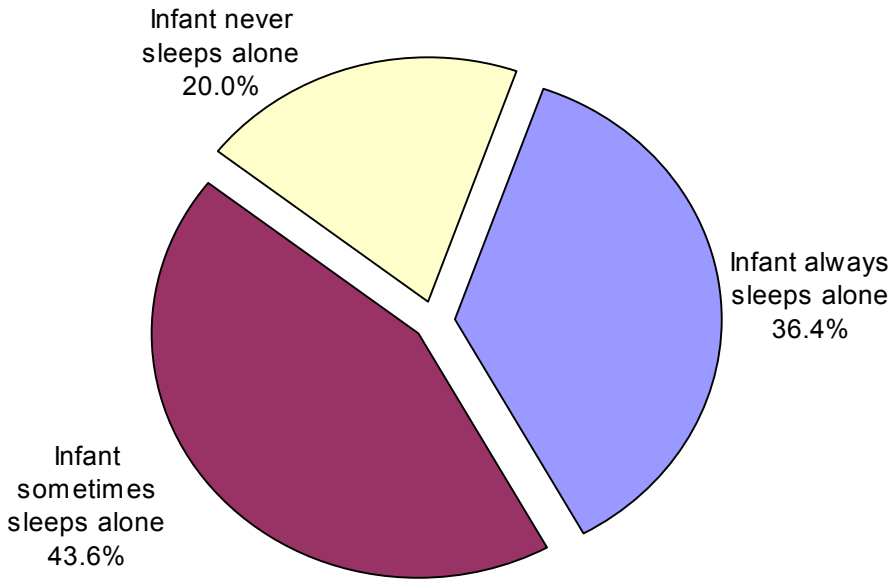


Figure 64:

Prevalence of infant co-sleeping,

Jul-Dec 2001 MI PRAMS

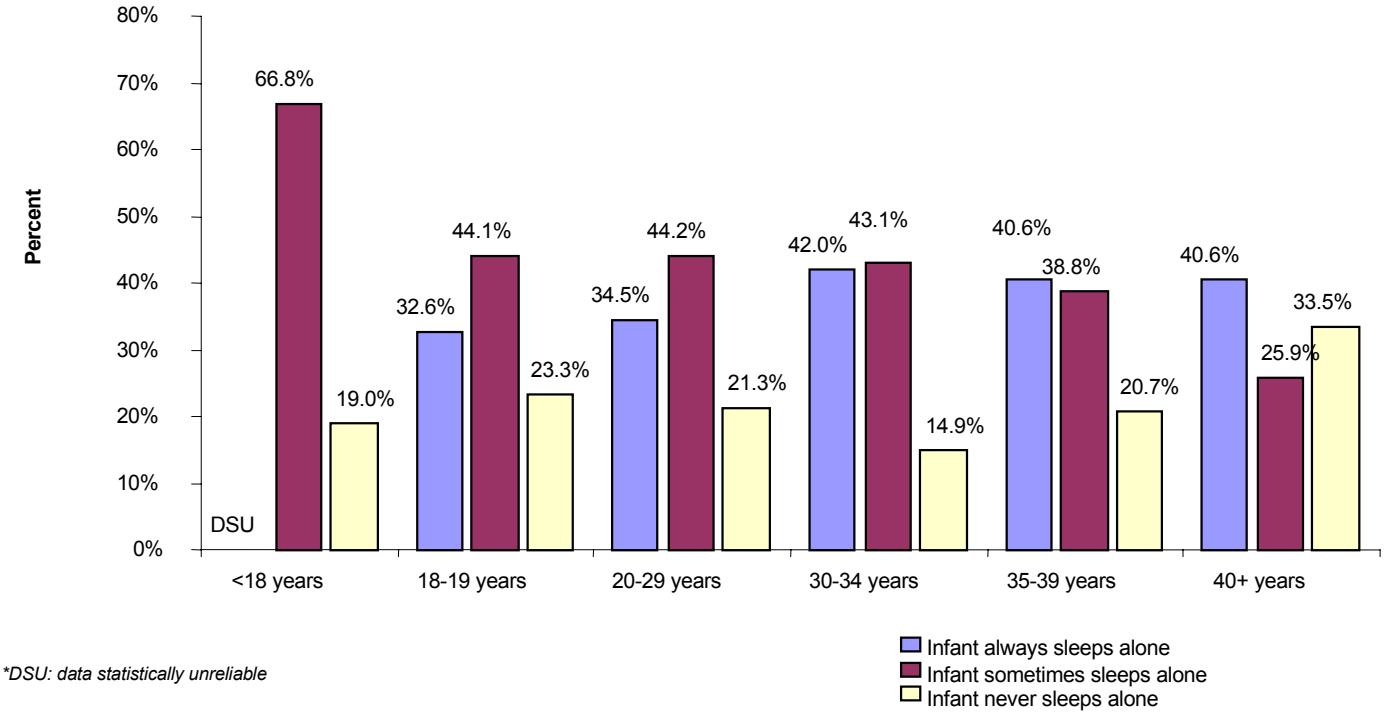


Infant Sleep

Figure 65:

Prevalence of infant co-sleeping by maternal age,

Jul-Dec 2001 MI PRAMS

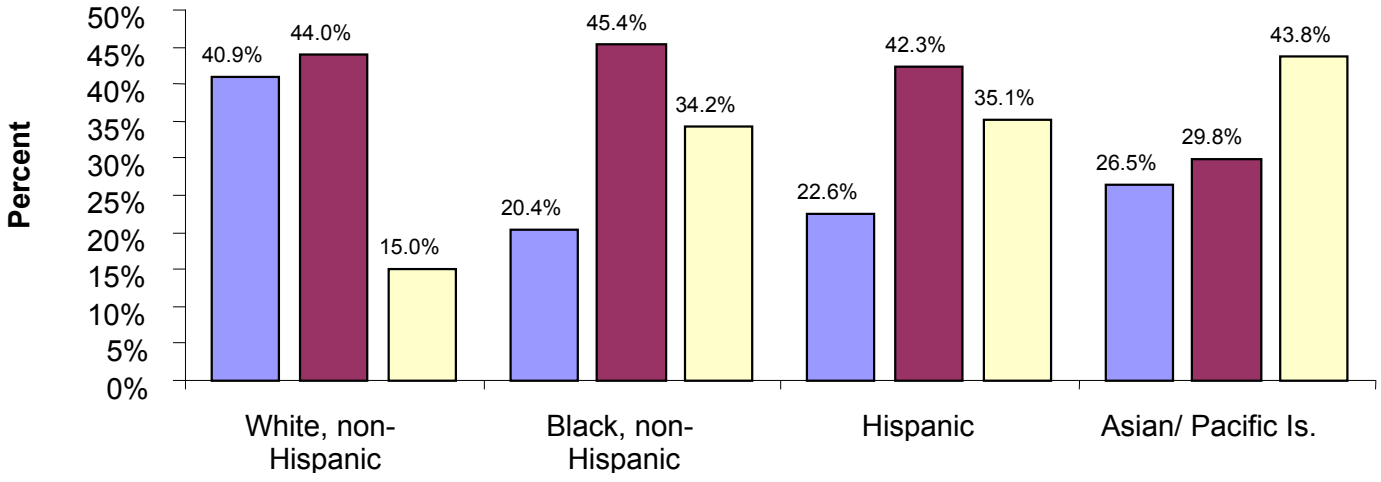


*DSU: data statistically unreliable

Figure 66:

Prevalence of infant co-sleeping by maternal race/ethnicity,

Jul-Dec 2001 MI PRAMS



*statistics for 'Mother only' category, 'American Indian/Alaskan Native' and 'Other' omitted due to small sample size.

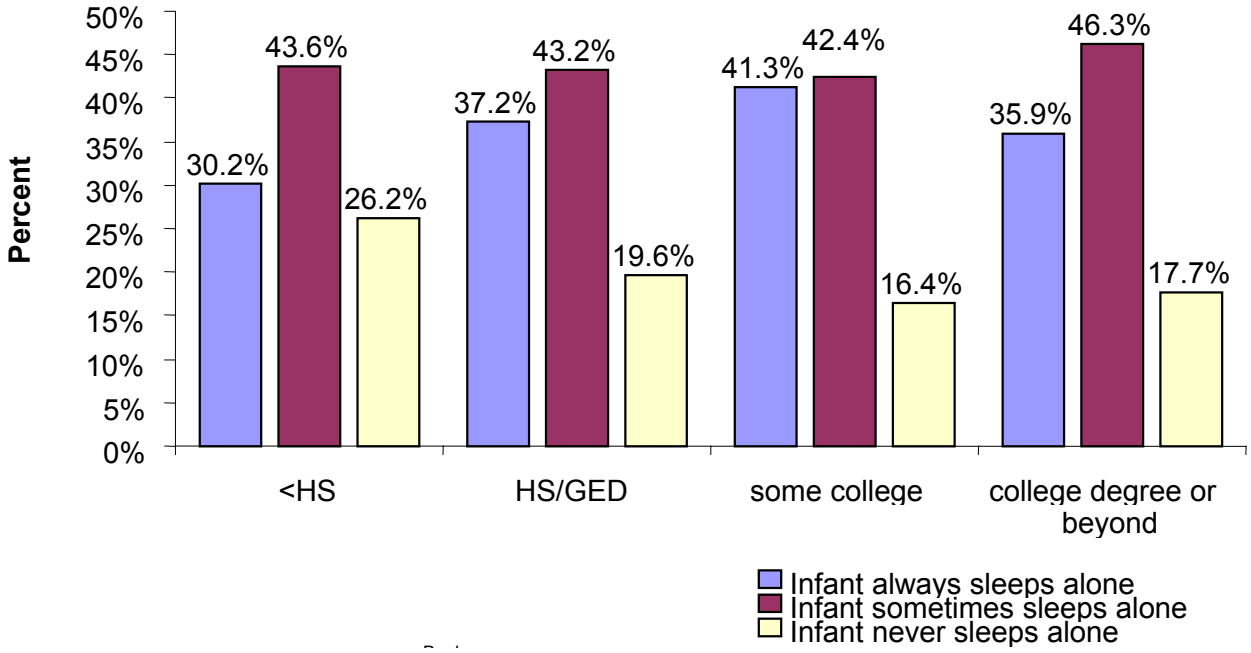
Back

Infant Sleep

Figure 67:

Prevalence of infant co-sleeping by maternal education,

Jul-Dec 2001 MI PRAMS



Violence Against Women

Definition:

Information regarding abuse, both physical and verbal, was derived from six questions asked of all women surveyed for PRAMS. Women classified as being abused prior to pregnancy responded 'Yes' to either Questions #33a or #33b, which ask:

Question #33a: During the 12 months before you got pregnant, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any way?
_No
_Yes
Question #33b: During the 12 months before you got pregnant, did anyone else push, hit, slap, kick, choke, or physically hurt you in any other way?
_No
_Yes

Women classified as being abused during pregnancy responded 'Yes' to either Questions #34a or #34b, which ask:

Question #34a: During your most recent pregnancy, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?
_No
_Yes
Question #34b: During your most recent pregnancy, did anyone else push, hit, slap, kick, choke, or physically hurt you in any other way?
_No
_Yes

The issue of verbal abuse was addressed in question # 73. Women were classified as experiencing verbal abuse or not experiencing verbal abuse depending on their response to option 'f':

Question #73: This question is about things that may have happened during the 12 months before your new baby was born.
f. You were repeatedly called names, told you were worthless, ugly, or verbally threatened by your partner or someone important to you.
_No
_Yes

Results:

Less than 5% of women (4.9%) experienced abuse in the year prior to their pregnancy (*Fig. #68*). Six percent of women reported being verbally abused in the year prior to delivery (*Fig. #69*). Among women who indicated that they were abused the perpetrator was most often their husband or partner. This was also true among the 3.7% of women who indicated that they were abused during their pregnancy (*Fig. #70*).

Public Health Implications:

There is a small minority of women who experience either physical or verbal abuse. In about 70% of cases the abuser was the woman's husband or partner, and about 30% of the women reported that it was someone else.
Standardized screening tools used by providers during prenatal care would help identify women who are victims of abuse. These women can then be referred to appropriate services.

Reference Tables: #42 - #46

Violence Against Women

Figure 68:

Prevalence of pre-pregnancy physical abuse and abuser,
Jul-Dec 2001 MI PRAMS

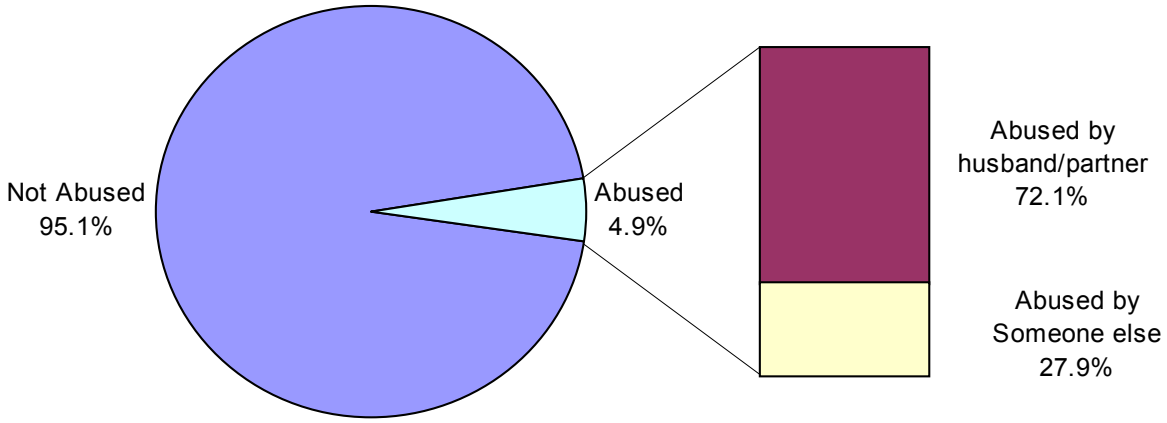
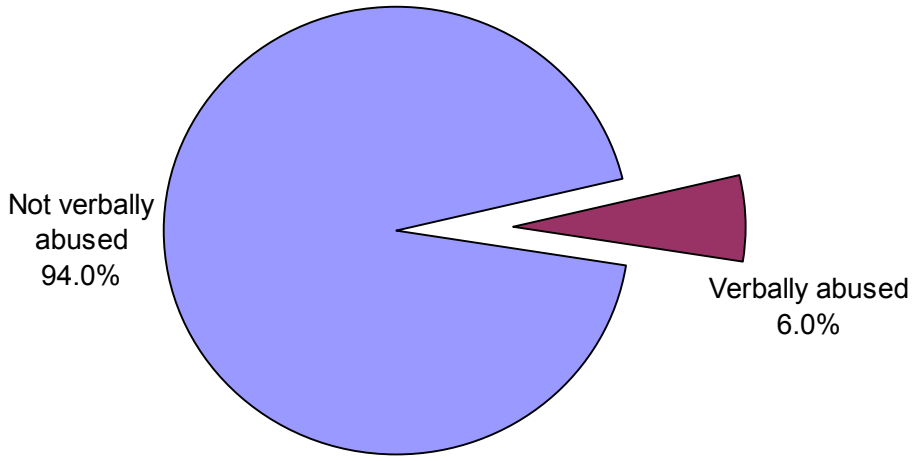


Figure 69:

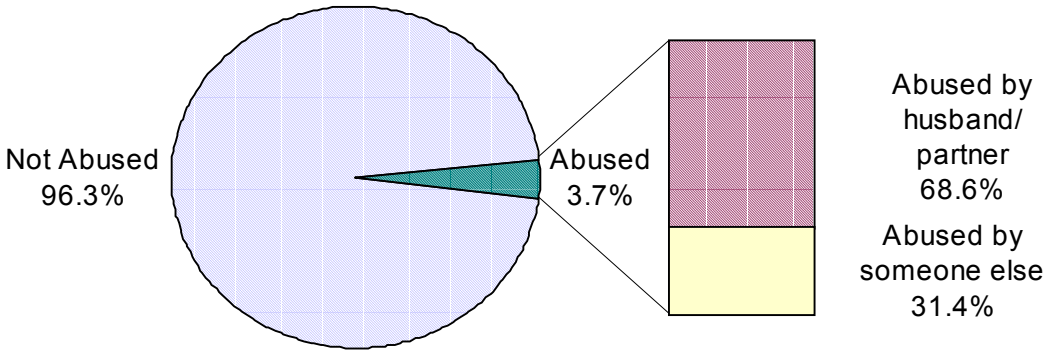
Prevalence of verbal abuse in the year prior to delivery,
Jul-Dec 2001 MI PRAMS



Violence Against Women

Figure 70:

Prevalence of physical abuse during pregnancy and abuser,
Jul-Dec 2001 MI PRAMS



Folic Acid Awareness

Definition:

Folic acid deficiency has been implicated in the increased risk of several birth defects, particularly neural tube defects. One question in the PRAMS questionnaire asked specifically about the participant's awareness of the benefits of folic acid prior to pregnancy:

> *Question #71: Before you became pregnant with your new baby, did either of the following things happen?*
> *_You heard or read that taking the vitamin folic acid or foods that contain it (orange juice, citrus fruits, broccoli, green leafy vegetables, and fortified cereal) could prevent some birth defects.*
> *_Your doctor or nurse instructed you on how to get enough folic acid*

The participant was considered having an awareness of the benefits of folic acid if she responded "Yes" to either situation. Only if she responded "Yes" when asked whether she was instructed by a doctor or nurse about folic acid, was she considered knowledgeable of the benefits and the appropriate amount of folic acid to consume. Although no question directly addresses the consumption of folic acid, question #3 of the survey was used to approximate folic acid consumption.

> *Question #3: In the month before you got pregnant with your new baby, how many times a week did you take a multivitamin (a pill that contains many different vitamins and minerals)?*
> *_I didn't take a multivitamin at all*
> *_1-3 times a week*
> *_4-6 times a week*
> *_Every day of the week*

Women who indicated that they took a multivitamin every day were classified as having, "consumed an appropriate amount. " Those women who took a multivitamin 1-6 times a week were considered as having, "consumed less than an appropriate amount of folic acid" and those who did not take any multivitamin were categorized as having, "consumed no folic acid."

Results:

When the two components of question #71 are analyzed together, 55.3% of women were both aware of and received instruction from a health care professional regarding folic acid; 23.0% were aware, but received no instructions; 18.2% were neither aware of folic acid nor received any instruction, and 3.5% were instructed by a health care professional but had no prior awareness (*Fig. #71*).

Consumption of a multivitamin prior to pregnancy was used as a proxy for folic acid consumption. More than half of women, 56.7%, responded that they consumed no multivitamins in the month prior to pregnancy (*Fig. #72*). The prevalence of 'no multivitamin' consumption was highest among women who indicated that they had no awareness of the benefits of folic acid or its sources regardless of whether they received

instruction from a health care professional (*Fig. #73*). Nearly 70% of women who were classified as being 'Neither aware nor instructed' of folic acid and 68.6% of women classified as 'Instructed, but not aware' did not consume a multivitamin in the month before their pregnancy as opposed to 58.1% who were considered 'Aware, but not instructed' and 49.0% of women who were 'Aware and instructed'

Public Health Implications:

The recommended dose of folic acid is 400µg/day. In the survey, the assumption was made that all multivitamins contained folic acid and all multivitamins contained the recommended amount of folic acid.

There appears to be a disconnect, however, between knowledge of folic acid and action. The majority of women know about the sources and benefits of folic acid, but they are not taking a multivitamin daily. Continued education about the benefits of folic acid consumption is still needed in the preconception period.

Reference Tables: #47 - #51b

Folic Acid Awareness

Figure 71:

Prevalence of folic acid awareness and/or instruction,

Jul-Dec 2001 MI PRAMS

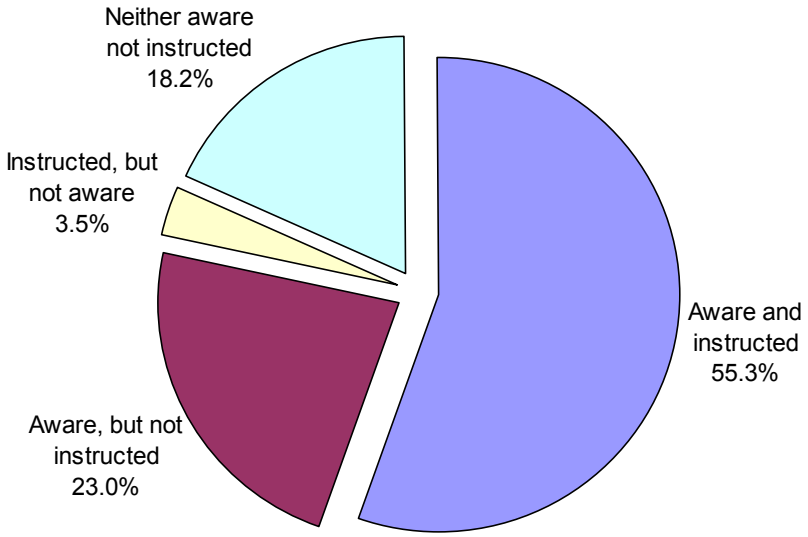
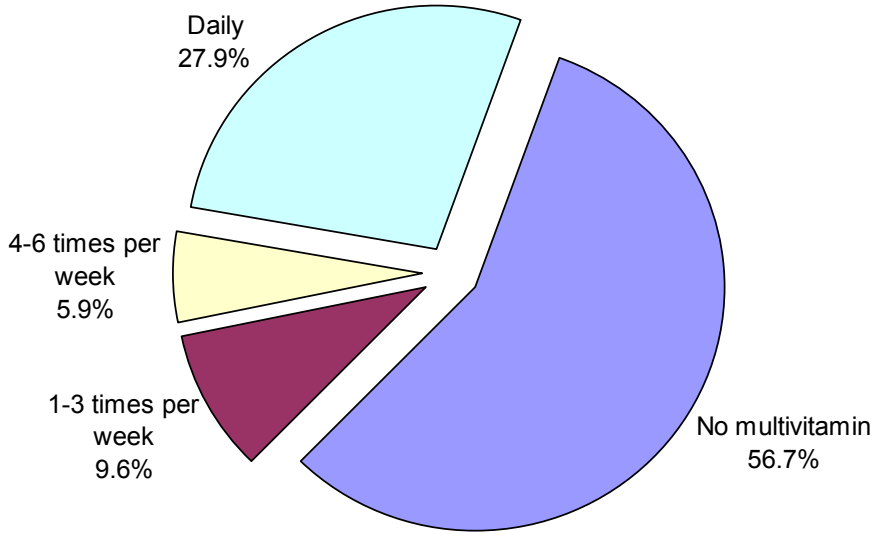


Figure 72:

Frequency of consumption of a multivitamin in the month prior to pregnancy,

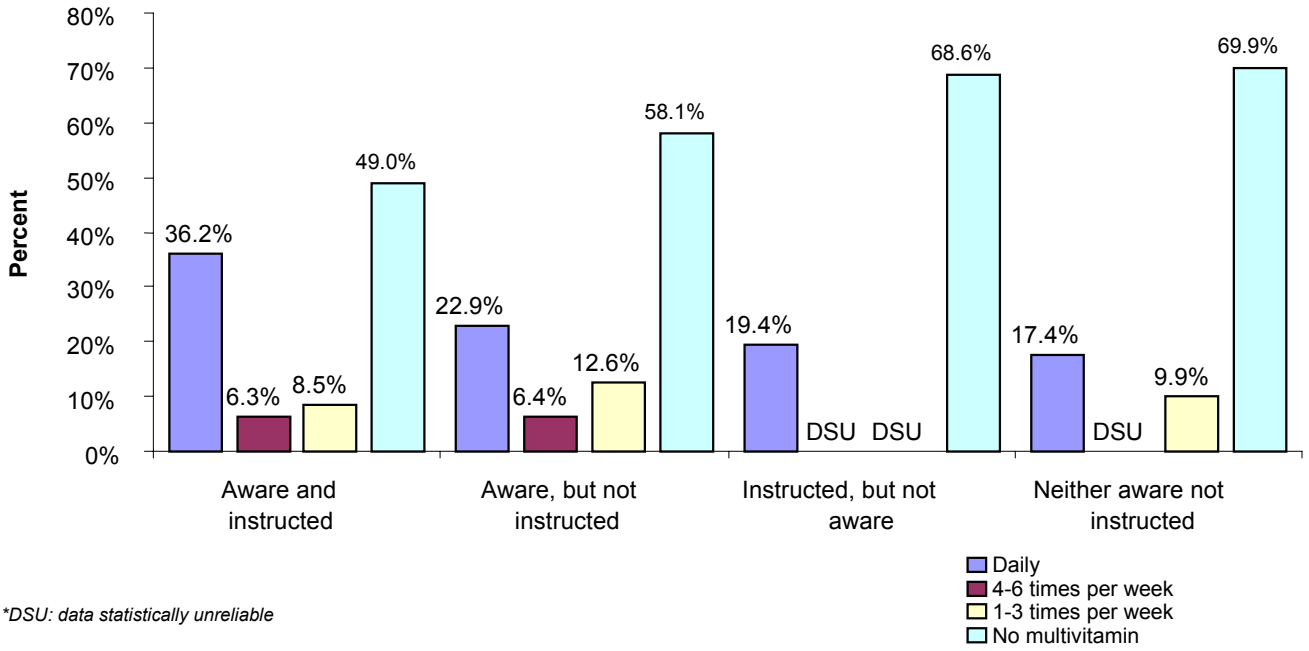
Jul-Dec 2001 MI PRAMS



Folic Acid Awareness

Figure 73:

Consumption a multivitamin in the month before pregnancy by awareness of / instruction about folic acid, Jul-Dec 2001 MI PRAMS



*DSU: data statistically unreliable

WIC Participation

Definition:

Three questions regarding the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) were asked to women completing the PRAMS survey. The first of these questions (Question #22) identifies women who participated in WIC during their pregnancy.

Question #22: During your pregnancy, were you on WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children)?
_No
_Yes

Women were categorized as either participating in WIC during pregnancy or not participating in WIC during their pregnancy. Regardless of their answer, however, all women were asked an additional WIC question. Information on women and their infant's participation in WIC during the *postpartum period* was gathered from answers to question #79:

Question #79: Are you or your baby enrolled in WIC now?
_My baby is on WIC
_Both my baby and I are on WIC
_I am on WIC
_Neither I nor my baby are on WIC

Only women who indicated their infant was not enrolled in WIC, irrespective of their own participation, were asked why their infant was not participating in the program.

Question #80: Why wasn't your new baby enrolled in WIC?
_My baby was not eligible
_I didn't know about WIC
_I didn't want to enroll my baby
_Other

Not every pregnant and postpartum woman surveyed by PRAMS is eligible to participate in WIC. There are income and nutritional risks criteria for enrollment in Michigan's WIC: participants must be a pregnant or postpartum woman, reside in Michigan, and be at or below 185% of the Poverty Income Guideline or participate in another state-administered program that utilizes the same income guideline and be classified by a health professional as "nutritionally at risk. While income criteria can be defined, the nutritional risk could not be ascertained by using the PRAMS questionnaire. Therefore, this analysis was restricted to women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federal assistance as part of their income in the year prior to delivery as income criteria to identify those who were potentially eligible for WIC.

Results:

An estimated 25,000 women who delivered in the second half of 2001 were classified as being potentially eligible for WIC based on the above income criteria. Of those women 76.7% participated in WIC during their pregnancy (Fig. #74). During the postpartum period, the percent of participants was even higher with only 13.5% of women who were potentially WIC eligible not participating in the program (Fig. #75). When asked why they were not enrolled in the program, the majority of these women reported "other reasons", not described further in the PRAMS questionnaire, followed by not wanting to have the infant participating (Fig. #76).

Public Health Implications:

Michigan's WIC program serves more than three quarters of women who were identified as potentially eligible. The information obtained from the PRAMS questionnaire is limited to self-reporting and there are no further questions asked to identify why women were not enrolled. In addition, the method of defining eligibility does not include the full criteria to establish eligibility. The Michigan WIC program's continuing efforts in outreach activities to reach the most at risk populations and educate about the benefits of WIC enrollment on birth outcomes, has helped to increase the program participation to its highest level in the last thirty years.

Reference Tables: #52 - #54

WIC Participation

Figure 74:

Participation in WIC during pregnancy among income eligible women,
Jul-Dec 2001 MI PRAMS

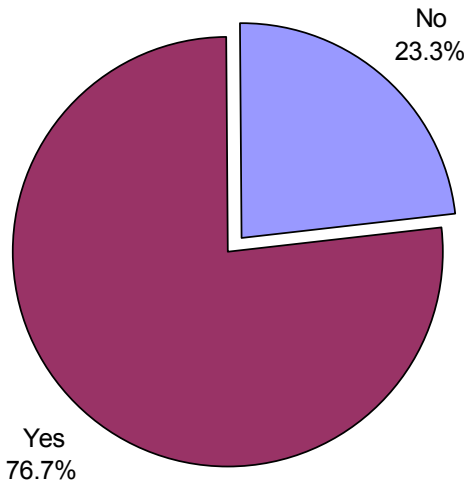
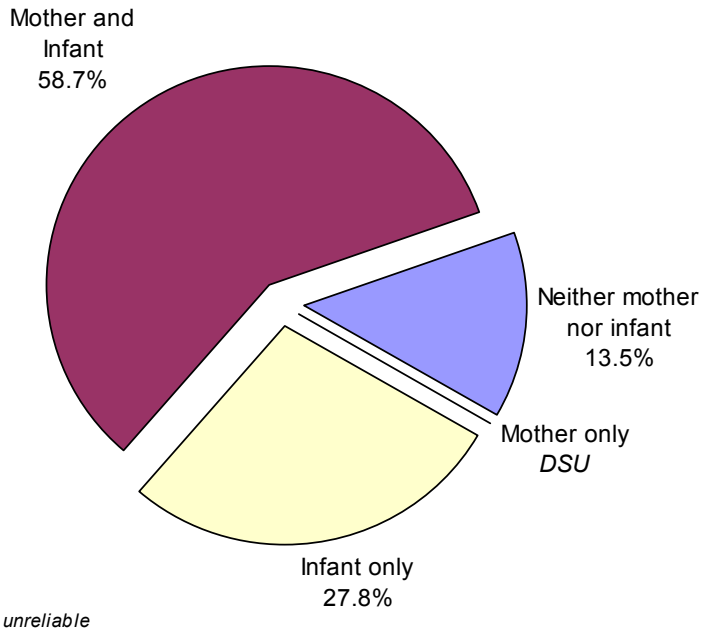


Figure 75:

Participation in WIC in the postpartum period among income eligible women,
Jul-Dec 2001 MI PRAMS



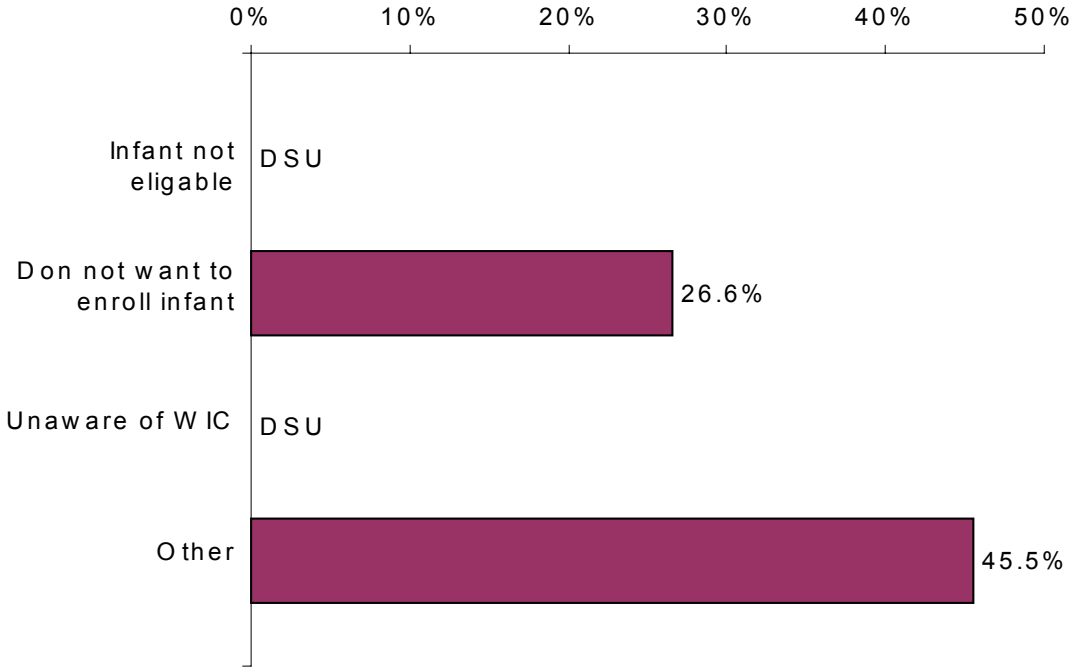
*DSU: data statistically unreliable

WIC Participation

Figure 76:

Reasons for infant non-participation in WIC among income eligible women whose infant did not participate in WIC,

Jul-Dec 2001 MI PRAMS



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APPENDIX A: METHODOLOGY

METHODOLOGY

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a population-based survey that is part of the Centers for Disease Control and Prevention (CDC) initiative to reduce infant mortality and low birthweight. The Michigan Department of Community Health (MDCH), under the auspices of the CDC, conducted the data collection for the second half of 2001 (July- December) Michigan PRAMS. Software developed by the CDC was used to manage the 2001 sample, enforce protocol, and enter data.

PRAMS surveys mothers who have delivered a live born infant within a calendar year. Natality information, collected by Michigan's Office of Vital Records and Health Statistics, is the most complete single source of information regarding the live births of Michigan residents and serves as the sampling frame from which PRAMS selects survey participants. Mothers, who delivered a live born infant subsequently died, are included in the sampling frame. Also only one infant of a multiple gestation is included in the sampling frame unless the gestation includes four or more siblings. In that instance all of the infants are excluded from the sampling frame. Other exclusions include: out-of-state births to residents, in-state births to nonresidents, missing information, delayed or early processing of birth certificates, adopted infants, and surrogate births. Oversampling is utilized to gather a sufficient number of responses among small subpopulations within the state. For the second half of 2001 women who delivered a low birth weight infant, representing 8.0% of all live births, were oversampled.

PRAMS is a stratified random sample. Stratification permits both separate estimates of subgroups of interest and permits comparisons across these subgroups. In the second half of 2001 the sample was stratified by infant birthweight (Low or Normal) and geographic region (SE Region, Other Urban Areas (populations >25,000), All Other Areas). A sample is drawn each calendar month of births recorded in the month prior. Once the sample has been identified the information is forwarded to the Michigan State University (MSU) Office of Survey Research, which is subcontract by MDCH, to conduct the survey.

PRAMS utilizes a mixed-mode methodology in order to gather information from women selected to participate in the survey. This combination mail/telephone survey methodology, based on the research of Don Dilman, is utilized in order to maximize response rates. Women are first notified of the survey's and then surveyed, via mail. If, after three attempts by mail, the mother has not responded she is then contacted by telephone and has the opportunity to participate in the PRAMS survey over the phone.

From a total of 1118 women, who were selected from the sampling frame to participate, 848 (78%) women were surveyed. The demographic characteristics of these women are depicted in the section entitled Maternal Demographics.

The questionnaire consists of two parts. First, there are core questions, developed by the CDC, that appear on all states' surveys. Second, there are state-added questions that are tailored to each state's needs. Topics addressed in the PRAMS core questionnaire include barriers to and content of prenatal care, obstetric history, maternal use of alcohol and cigarettes, physical abuse, contraception, economic status, maternal stress, and early infant development and health status. Some state-added questions provide additional information on topics already addressed in the core questionnaire, including content of prenatal care, contraception, and physical abuse. Other questions address different topics, including social support and services, mental health, and injury prevention. Topics addressed by the new state-added include: racism, mental health, mental/emotional abuse, and pre-pregnancy contraception.

WEIGHTING

After the information gathering phase is concluded, mothers responses are linked to their corresponding birth certificate data. The linked PRAMS response/birth certificate dataset is then sent to the CDC for weighting. Weighting allows public health professionals and researchers to estimate the statistics for the entire state's population of women who delivered a live born infant from data gathered from a sample of mothers in that population. In PRAMS there are three weighting components that adjusted for: sample design, nonresponse, and omissions in the sampling frame. Nonresponse adjustment factors attempt to compensate for the tendency of women having certain characteristics (such as being unmarried or of lower education) to respond at lower rates than women without those characteristics. The rationale for applying nonresponse weights is the assumption that nonrespondents would have provided similar answers, on average, to respondents' answers for that stratum and adjustment category.

INTERPRETATION OF RESULTS

As with all surveys, PRAMS is not free of sampling error. The 95% confidence intervals are included in order to quantify this error and to clarify the degree of certainty in the estimates present.

MI PRAMS sample was stratified by infant birthweight (Low or Normal) and geographic region (SE Region, Other Urban Areas, All Other Areas). The information in this report was weighted to estimate the characteristics for the entire cohort of women delivering a live born infant from July-December of 2001. In the second half of 2001 the overall response rate was 78%. The response rate for each of the stratums is as follows:

- SE Region/LBW: 66%
- SE Region/NBW: 71%
- Other Urban Areas/LBW: 73%
- Other Urban Areas/NBW: 78%
- All Other Areas/LBW: 81%
- All Other Areas/NBW: 84%

The SE Region, low birth weight stratum has a response rate that fell short of the 70% rate that the CDC has regarded as the epidemiologically valid threshold for PRAMS. Analysis specific to this stratum will result in potentially biased estimates. Consequently, the information regarding this stratum must be viewed with caution.

APPENDIX B: DETAILED TABLES

Table #1:
Selected demographic characteristics of mothers,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	848	64,518	100.0%	-
Age				
<18 years	27	2,030	3.2%	± 1.4
18-19 years	63	4,346	6.7%	± 1.9
20-29 years	434	33,515	52.0%	± 3.9
30-34 years	210	16,282	25.2%	± 3.4
35-39 years	94	6,955	10.8%	± 2.4
40+ years	20	1,390	2.2%	± 1.1
Race/Ethnicity				
White, non-Hispanic	635	48,842	77.9%	± 3.3
Black, non-Hispanic	136	8,951	14.3%	± 2.7
Hispanic	38	3,299	5.3%	± 1.9
American Indian/Alaskan Native	2	DSU	DSU	DSU
Asian/ Pacific Is.	19	1,457	2.3%	± 4.6
Other	1	DSU	DSU	DSU
Maternal Education				
<HS	132	12,099	19.1%	± 3.4
HS/GED	278	18,965	30.0%	± 3.5
Some College	215	15,531	24.6%	± 3.5
College Graduate	210	16,612	26.3%	± 3.4
Marital Status				
Married	560	44,516	69.1%	± 3.6
Other	286	19,890	30.9%	± 3.6
Pre-Pregnancy Insurance Status				
Uninsured	162	13,066	20.4%	± 3.2
Private Insurance/HMO	573	43,421	67.7%	± 2.7
Medicaid*	108	7,685	12.0%	± 3.7

Jul-Dec 2001 MI PRAMS

* Medicaid recipent prior to pregnancy

DSU: data statistically unreliable

Table #2:
Prevalence of intended and unintended pregnancies,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	842	64,137	100.0%	-
Intended	490	38,111	59.4%	± 3.8
Unintended*	352	26,026	40.6%	± 3.8

Jul-Dec 2001 MI PRAMS

*Unintended pregnancy: wanted to become pregnant later or did not want to be pregnant then or in the futu

Table #3:
Prevalence of types of unintended pregnancies,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	352	26026	100.0%	-
Type of Unintended Pregnancy				
Mistimed*	264	19,068	73.3%	± 5.5
Unwanted**	88	6,957	26.7%	± 5.5

Jul-Dec 2001 MI PRAMS

*Mistimed: wanted to become pregnant later.

**Did not want to be pregnant then or in the future.

Table #4:
Prevalence of contraceptive use and methods among unintended pregnancies,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	352	26,026	40.6%	± 3.8
Contraception Use				
No	148	10,755	45.4%	± 6.4
Yes	172	12,922	54.6%	± 6.4
Contraceptive Method				
Pill	37	2,555	20.1%	± 6.8
Condoms	61	4,790	34.4%	± 21.0
Spermicidal foam, cream, or jelly	3	DSU	DSU	DSU
Norplant	0	DSU	DSU	DSU
Contraception shot (every 3 months)	7	472	3.7%	± 3.0
Withdrawal	46	3,362	26.4%	± 7.6
Female sterilization	0	DSU	DSU	DSU
Male sterilization	1	131	1.0%	± 2.0
Other	14	1,270	10.0%	± 5.2

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #5:
Prevalence of pregnancy intention by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Intended Pregnancy				Unintended Pregnancy			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	490	38,111	59.4%	± 3.8	352	26,026	40.6%	± 3.8
Age								
<18 years	3	DSU	DSU	DSU	24	1,771	87.3%	± 16.9
18-19 years	22	1,539	35.4%	± 14.5	41	2,807	64.6%	± 14.5
20-29 years	237	18,230	54.7%	± 5.4	194	15,097	45.3%	± 5.4
30-34 years	150	12,273	75.5%	± 6.7	59	3,979	24.5%	± 6.7
35-39 years	62	4,652	68.5%	± 10.9	30	2,140	31.5%	± 10.9
40+ years	16	1,158	83.4%	± 19.0	4	DSU	DSU	DSU
Race/Ethnicity								
White, non-Hispanic	399	31,172	64.3%	± 4.2	231	17,306	35.7%	± 4.2
Black, non-Hispanic	49	3,231	36.2%	± 10.1	86	5,703	63.8%	± 10.1
Hispanic	16	1,272	38.6%	± 17.3	22	2,027	61.5%	± 17.7
American Indian/Alaskan Native	0	DSU	DSU	DSU	2	DSU	DSU	DSU
Asian/ Pacific Is.	11	849	58.3%	± 23.9	8	608	41.7%	± 23.9
Other	1	DSU	DSU	DSU	0	DSU	DSU	DSU
Maternal Education								
<HS	42	4,260	35.7%	± 9.9	87	7,683	64.3%	± 9.9
HS/GED	150	10,667	56.4%	± 6.7	127	8,236	43.6%	± 6.7
Some College	132	9,777	63.3%	± 7.3	82	5,672	36.7%	± 7.3
College Graduate	158	12,437	75.2%	± 6.6	51	4,094	24.8%	± 6.6
Marital Status								
Married	401	32,072	72.5%	± 4.2	154	12,172	27.5%	± 4.2
Other	88	6,009	30.4%	± 6.4	197	13,772	69.6%	± 6.4
Pre-Pregnancy Insurance Status								
Uninsured	70	5,444	41.7%	± 8.8	92	7,622	58.3%	± 8.8
Private Insurance/HMO	385	29,945	69.4%	± 4.3	184	13,234	30.7%	± 4.3
Medicaid*	31	2,485	32.5%	± 11.5	76	5,170	67.5%	± 11.5

Jul-Dec 2001 MI PRAMS

* Medicaid recipent prior to pregnancy

DSU: data statistically unreliable

Table #6:
Prevalence of contraceptive use prior to pregnancy by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Used Contraception				Did Not Use Contraception			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	226	16,931	52.6%	± 5.5	200	15,243	47.4%	± 5.5
Age								
<18 years	9	592	32.3%	± 22.4	16	1,241	67.7%	± 22.4
18-19 years	20	1,275	44.7%	± 176	22	1,575	55.3%	± 17.6
20-29 years	126	9,981	52.5%	± 7.3	115	9,037	47.5%	± 7.3
30-34 years	44	3,293	62.6%	± 13.4	27	1,967	37.4%	± 13.4
35-39 years	19	1,229	48.8%	± 19.3	17	1,291	51.2%	± 19.3
40+ years	8	562	80.9%	± 22.6	3	DSU	DSU	DSU
Race/Ethnicity								
White, non-Hispanic	155	11,802	53.6%	± 6.5	134	10,226	46.4%	± 6.5
Black, non-Hispanic	52	3,617	55.1%	± 12.4	46	2,943	44.9%	± 12.4
Hispanic	13	905	38.8%	± 21.3	12	1,426	61.2%	± 21.3
American Indian/Alaskan Native	0	DSU	DSU	DSU	2	DSU	DSU	DSU
Asian/ Pacific Is.	3	DSU	DSU	DSU	4	DSU	DSU	DSU
Other	0	DSU	DSU	DSU	0	DSU	DSU	DSU
Maternal Education								
<HS	54	4,974	55.0%	± 11.5	45	4,066	45.0%	± 11.5
HS/GED	77	4,953	47.4%	± 9.2	80	5,491	52.6%	± 9.2
Some College	58	4,378	61.4%	± 10.6	41	2,750	38.6%	± 10.6
College Graduate	35	2,455	46.1%	± 13.4	32	2,876	54.0%	± 13.4
Pre-Pregnancy Insurance Status								
Uninsured	59	4,508	50.3%	± 10.9	52	4,458	49.7%	± 10.9
Private Insurance/HMO	127	9,635	55.0%	± 7.3	106	7,892	45.0%	± 7.3
Medicaid*	40	2,788	49.1%	± 13.5	42	2,893	50.9%	± 13.5

Jul-Dec 2001 MI PRAMS

* Medicaid recipent prior to pregnancy

DSU: data statistically unreliable

Table #7:
Reasons for contraceptive nonuse prior to pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Reasons				
Didn't mind getting pregnant	108	7,785	44.3%	± 7.5
Thought could not get pregnant	56	3,881	22.1%	± 6.3
Discontinued Contraception because of side effects	33	2,271	12.9%	± 4.9
Trouble getting Contraception	19	1,520	8.6%	± 4.4
Thought husband/partner was sterile	22	1,515	8.6%	± 4.3
Husband/partner did not want to use Contraception	52	4,432	25.2%	± 6.9
Other	36	2,689	15.3%	± 5.4

Jul-Dec 2001 MI PRAMS

Table #8:
Contraceptive method used prior to pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Contraceptive Method				
Pill	70	5,307	34.8%	± 7.5
Condoms	106	8,069	52.9%	± 7.9
Spermicidal foam, cream, or jelly	5	375	2.5%	± 2.4
Norplant	0	DSU	DSU	DSU
Contraception shot (every 3 months)	9	665	4.4%	± 3.1
Withdrawal	54	3,936	25.8%	± 6.9
Female sterilization	0	DSU	DSU	DSU
Male sterilization	2	DSU	DSU	DSU
Other	17	1,387	9.1%	± 4.5

Jul-Dec 2001 MI PRAMS

Table #9:
Prevalence of contraceptive use postpartum by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Used Contraception				Did Not Use Contraception			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	712	53,188	83.1%	± 3.0	129	10,788	16.9%	± 3.0
Age								
<18 years	23	1,617	87.4%	± 14.1	3	233	12.6%	± 14.1
18-19 years	58	4,117	94.7%	± 5.0	5	229	5.3%	± 5.0
20-29 years	371	28,231	85.0%	± 3.9	58	5,003	15.1%	± 3.9
30-34 years	171	12,694	78.4%	± 6.8	38	3,506	21.6%	± 6.8
35-39 years	72	5,363	77.1%	± 9.8	22	1,592	22.9%	± 9.8
40+ years	17	1,165	83.8%	± 17.2	3	DSU	DSU	DSU
Race/Ethnicity								
White, non-Hispanic	531	40,227	83.2%	± 3.4	99	8,142	16.8%	± 3.4
Black, non-Hispanic	122	8,159	91.9%	± 5.5	12	723	8.1%	± 5.5
Hispanic	28	2,312	70.1%	±16.9	10	987	29.9%	± 16.9
American Indian/Alaskan Native	2	DSU	DSU	DSU	0	DSU	DSU	DSU
Asian/ Pacific Is.	16	1,183	81.2%	± 19.1	3	DSU	DSU	DSU
Other	1	DSU	DSU	DSU	0	DSU	DSU	DSU
Maternal Education								
<HS	111	10,065	84.6%	± 7.7	19	1,837	15.4%	± 7.7
HS/GED	240	16,121	85.4%	± 4.9	36	2,762	14.6%	± 4.9
Some College	176	12,182	79.5%	± 6.3	37	3,137	20.5%	± 6.3
College Graduate	177	14,058	84.9%	±7.5	32	2,502	15.1%	± 7.5
Prenatal Contraception Counseling*								
No	142	11,315	77.1%	± 7.1	44	3,367	22.9%	± 7.1
Yes	562	41,355	85.0%	± 3.2	84	7,312	15.0%	± 3.2

Jul-Dec 2001 MI PRAMS

* discussed Contraception with a doctor, nurse, or other health care professional duribg prenatal care visit. Educational literature or videos not included.

DSU: data statistically unreliable

Table #10:
Reasons for contraceptive nonuse postpartum,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Reasons				
Not having sex	34	3,019	26.7%	± 8.4
Want to get Pregnant	27	1,715	15.1%	± 6.4
Don't want to use Contraception	39	3,706	32.7%	± 9.0
Husband/partner does not want	20	1,926	17.0%	± 7.1
Don't think can get pregnant	8	565	5.0%	± 3.9
Cannot afford Contraception	2	DSU	DSU	DSU
Pregnant now	6	520	4.6%	± 4.7
Other	31	2,536	22.4%	± 7.7

Jul-Dec 2001 MI PRAMS

Table #11:
Prevalence of infant birth weight,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	848	64,518	100.0%	-
Birth Weight				
Normal Birth Weight	626	59,953	92.9%	± 0.2
Low Birth Weight*	222	4,565	7.1%	± 0.2

Jul-Dec 2001 MI PRAMS

* birth weight less than 2500 grams

Table #12:
Prevalence of types of low birth weight,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	222	4,565	100.0%	-
Type of Low Birth Weight				
Moderately Low*	185	3,797	83.2%	± 5.0
Very Low**	37	768	16.8%	± 5.0

Jul-Dec 2001 MI PRAMS

* birth weight between 1500 grams to 2500 grams

** birth weight below 1500 grams

Table #13:
Infant birthweight by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Normal Birth Weight				Low Birth Weight			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	626	59,953	92.9%	± 0.2	222	4,565	7.1%	± 0.2
Age								
<18 years	18	1,867	92.0%	± 6.0	9	163	8.0%	± 6.0
18-19 years	42	3,945	90.8%	± 4.4	21	401	9.2%	± 4.4
20-29 years	333	31,231	93.2%	± 1.1	101	2,285	6.8%	± 1.1
30-34 years	154	15,250	93.7%	± 1.6	56	1,032	6.3%	± 1.6
35-39 years	66	6,403	92.1%	± 3.1	28	552	7.9%	± 3.1
40+ years	13	1,257	90.5%	± 7.8	7	132	9.5%	± 7.8
Race/Ethnicity								
White, non-Hispanic	490	45,943	94.1%	± 0.6	145	2,899	5.9%	± 0.6
Black, non-Hispanic	74	7,628	85.2%	± 3.9	62	1,323	14.8%	± 3.9
Hispanic	32	3,185	96.6%	± 3.0	6	114	3.4%	± 3.0
American Indian/Alaskan Native	2	DSU	DSU	DSU	-	DSU	DSU	DSU
Asian/ Pacific Is.	15	1,347	92.4%	± 7.7	4	110	7.6%	± 7.7
Other	-	DSU	DSU	DSU	-	DSU	DSU	DSU
Maternal Education								
<HS	97	11,393	94.2%	± 2.0	35	706	5.8%	± 2.0
HS/GED	190	17,193	90.7%	± 1.8	88	1,772	9.3%	± 1.8
Some College	162	14,400	92.7%	± 1.9	53	1,132	7.3%	± 1.9
College Graduate	167	15,737	94.7%	± 1.5	43	875	5.3%	± 1.5
Marital Status								
Married	435	41,905	94.1%	± 0.7	125	2,611	5.9%	± 0.7
Other	190	17,967	90.3%	± 1.8	96	1,923	9.7%	± 1.8
Pre-Pregnancy Insurance Status								
Uninsured	122	12,247	93.7%	± 2.0	40	819	6.3%	± 2.0
Private Insurance/HMO	436	40,600	93.5%	± 0.7	137	2,820	6.5%	± 0.7
Medicaid*	65	6,807	88.6%	± 3.8	43	878	11.4%	± 3.8

Jul-Dec 2001 MI PRAMS

* Medicaid recipent prior to pregnancy

DSU: data statistically unreliable

Table #14:
Prevalence of low birthweight by gestational age,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	222	4,565	7.1%	± 0.2
Gestational Age				
Term Infant**	57	1,095	24.0%	± 5.5
Pre-term Infant***	165	3,470	76.0%	± 5.5

Jul-Dec 2001 MI PRAMS

** term infant: gestational age >= 37 weeks

*** pre-term infant: gestational age < 37 weeks

Table #15:
Trimester of entry into prenatal care,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	840	63,945	100.0%	-
Entry into Prenatal Care				
1st trimester	675	52,154	81.6%	± 3.1
2nd trimester	143	10,006	15.7%	± 2.9
3rd trimester	18	1,601	2.5%	± 1.4
No prenatal care	4	DSU	DSU	DSU

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #16:
Trimester of entry into prenatal care by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Entered in 1st Trimester				Did Not Entered in 1st Trimester*			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	675	52,154	81.6%	± 3.1	165	11,791	18.4%	± 3.1
Age								
<18 years	15	1,335	66.4%	± 21.5	11	675	33.6%	± 21.5
18-19 years	39	2,514	57.8%	± 14.7	24	1,833	42.2%	± 14.7
20-29 years	344	26,812	80.7%	± 19.1	86	6,430	19.3%	± 19.1
30-34 years	184	14,330	88.7%	± 5.1	25	1,822	11.3%	± 5.1
35-39 years	78	5,994	88.1%	± 7.2	14	811	11.9%	± 7.2
40+ years	15	1,169	84.1%	± 16.1	5	DSU	DSU	DSU
Race/Ethnicity								
White, non-Hispanic	531	41,431	85.7%	± 3.1	98	6,921	14.3%	± 3.1
Black, non-Hispanic	82	5,479	61.8%	± 10.5	52	3,390	38.2%	± 10.5
Hispanic	27	2,207	66.9%	± 17.9	11	1,091	33.1%	± 17.9
American Indian/Alaskan Native	2	DSU	DSU	DSU	0	DSU	DSU	DSU
Asian/ Pacific Is.	17	1,267	87.0%	± 16.9	2	DSU	DSU	DSU
Other	1	DSU	DSU	DSU	0	DSU	DSU	DSU
Maternal Education								
<HS	80	7,373	61.6%	± 9.9	50	4,598	38.4%	± 9.9
HS/GED	206	14,864	78.9%	± 5.5	69	3,969	21.1%	± 5.5
Some College	183	13,508	87.0%	± 5.0	32	2,023	13.0%	± 5.0
College Graduate	193	15,097	92.6%	± 4.1	14	1,201	7.4%	± 4.1
Pre-Pregnancy Insurance Status								
Uninsured	103	7,877	60.9%	± 8.9	57	5,061	39.1%	± 8.9
Private Insurance/HMO	501	38,751	90.0%	± 2.7	67	4,306	10.0%	± 2.7
Medicaid**	67	5,261	69.2%	± 11.0	40	5,261	30.8%	± 11.0

Jul-Dec 2001 MI PRAMS

* Entered prenatal care after the first trimester or not at all.

** Medicaid recipent prior to pregnancy

DSU: data statistically unreliable

Table #17:
Trimester of entry into prenatal care by pregnancy intention,
Jul-Dec 2001 MI PRAMS

	Entered in 1st Trimester				Did Not Entered in 1st Trimester*			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	672	51,902	81.7%	± 3.1	162	11,662	18.4%	± 3.1
Pregnancy Intention								
Intended	427	33,832	89.2%	± 3.2	60	4,099	10.8%	± 3.2
Unintended	245	18,070	70.5%	± 5.7	102	7,563	29.5%	± 5.7

Jul-Dec 2001 MI PRAMS

* Entered prenatal care after the first trimester or not at all.

Table #18:
Satisfaction with trimester of entry into prenatal care,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	841	64,123	100.0%	-
Satisfaction with Time of Entry				
No	131	9,715	15.2%	± 2.8
Yes	710	54,409	84.9%	± 2.8

Jul-Dec 2001 MI PRAMS

Table #19:
Number of barriers to care experienced by women who were not satisfied with the trimester of entry into prenatal care,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total*	127	9,143	100.0%	-
Number of Barriers				
1 barrier	83	5,776	63.2%	± 10.2
2 barriers	28	2,312	25.3%	± 9.3
3 barriers	11	706	7.7%	± 5.6
4 barriers	4	DSU	DSU	DSU
5 barriers	1	DSU	DSU	DSU

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

* Among women who were not satisfied with their time of enty

Table #20:
Types of barriers to care experienced by women who were not satisfied with the trimester of entry into prenatal care,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Types of Barriers				
Could not get and earlier appointment	42	3,024	30.4%	± 9.2
Could not pay for visit	26	2,073	20.8%	± 8.3
Unaware of pregnancy	51	3,611	36.3%	± 9.7
No transportation	12	955	9.6%	± 5.9
Doctor/HMO would not start care earlier	18	1,299	13.2%	± 6.8
Did not have Medicaid card	15	1,395	14.0%	± 7.5
No childcare	5	498	5.0%	± 4.9
Too many things going on	16	1,128	11.3%	± 6.2
Other	15	876	8.8%	± 5.1

Jul-Dec 2001 MI PRAMS

Table #21:
Prevalence of prenatal care providers,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	810	61,906	100.0%	-
Prenatal Care Providers				
Hospital Clinic	122	8,495	13.7%	± 2.7
Health Dept. Clinic	33	2,370	3.8%	± 1.6
Doctor's Office/HMO	655	51,041	82.5%	± 3.0

Jul-Dec 2001 MI PRAMS

Table #22:
Sources of payment for prenatal care,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Sources of Payment				
Medicaid	306	22,861	35.5%	± 3.8
Personal Income	120	8,714	13.6%	± 2.6
Private insurance	564	43,249	67.2%	± 3.7
Other	20	1,327	2.1%	± 1.2

Jul-Dec 2001 MI PRAMS

Table #23:
Topics discusses during any prenatal care visit (literature and videos excluded),
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Topics Discussed				
Smoking During Pregnancy	630	47,380	74.2%	± 3.4
Breastfeeding	690	52,571	82.1%	± 3.0
Alcohol Consumption during pregnancy	626	46,898	73.3%	± 3.5
Seatbelt Use	428	30,852	48.2%	± 3.9
Postpartum Contraception	652	49,030	76.7%	± 3.4
Safe medications	759	57,670	90.2%	± 2.4
Illegal Drug Use During Pregnancy	542	40,211	63.3%	± 3.8
Screening for Birth Defects	694	53,333	83.4%	± 2.9
Early labor	687	53,306	83.2%	± 2.9
HIV/AIDS test	714	55,240	86.5%	± 2.6
Domestic Abuse	325	24,456	38.3%	± 3.8

Jul-Dec 2001 MI PRAMS

Table #24:
Breastfeeding intention prior to delivery,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	801	61,701	100.0%	-
Plan				
Planned to Breastfeed	426	33,707	54.6%	± 4.0
May Breastfeed	150	11,435	18.5%	± 3.1
Planned not to Breastfeed	192	14,473	23.5%	± 3.4
Unsure About Breastfeeding	33	2,086	3.4%	± 1.4

Jul-Dec 2001 MI PRAMS

Table #25:
Breastfeeding initiation,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	802	62,024	100.0%	-
Breastfeeding Initiation				
No	257	19,350	31.2%	± 3.7
Yes	545	42,674	68.8%	± 3.7

Jul-Dec 2001 MI PRAMS

Table #26:
Breastfeeding duration,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	798	61,654	100.0%	-
Breastfeeding Duration				
Did not breastfeed	257	19,350	31.4%	± 3.7
Breastfed for less than 1 week	41	3,190	5.2%	± 1.8
Breastfeed for >1 week, but concluded	252	19,081	31.0%	± 3.7
Was breastfeeding when surveyed	248	20,034	32.5%	± 3.7

Jul-Dec 2001 MI PRAMS

Table #27a:
Prevalence of breastfeeding duration be maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Did not breastfeed				Breastfed for less than 1 week			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	257	19,350	31.4%	± 3.7	41	3,190	5.2%	± 1.8
Age								
<18 years	16	1,196	58.9%	± 22.9	2	DSU	DSU	DSU
18-19 years	30	2,186	53.0%	± 15.2	4	DSU	DSU	DSU
20-29 years	131	9,811	30.9%	± 5.1	26	2,253	7.1%	± 2.9
30-34 years	49	3,996	24.9%	± 7.0	7	624	3.9%	± 3.2
35-39 years	23	1,505	23.1%	± 10.0	2	DSU	DSU	DSU
40+ years	8	656	55.2%	± 27.3	0	DSU	DSU	DSU
Race/Ethnicity								
White, non-Hispanic	169	13,455	28.4%	± 4.1	29	2,504	5.3%	± 2.1
Black, non-Hispanic	69	4,382	53.0%	± 11.0	10	474	5.7%	± 4.3
Hispanic	10	820	29.1%	± 17.9	1	DSU	DSU	DSU
American Indian/Alaskan Native	0	DSU	DSU	DSU	0	DSU	DSU	DSU
Asian/ Pacific Is.	4	DSU	DSU	DSU	0	DSU	DSU	DSU
Other	0	DSU	DSU	DSU	0	DSU	DSU	DSU
Maternal Education								
<HS	68	6,092	53.3%	± 10.5	4	DSU	DSU	DSU
HS/GED	112	7,453	41.2%	± 6.9	21	1,517	8.4%	± 3.9
Some College	48	3,604	23.8%	± 6.7	9	597	4.0%	± 2.8
College Graduate	28	2,022	12.7%	± 5.0	6	687	4.3%	± 3.4
Marital Status								
Married	124	10,593	24.7%	± 4.2	20	1,686	3.9%	± 1.9
Other	133	8,757	46.9%	± 7.2	21	1,503	8.1%	± 3.9

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #27b:
Prevalence of breastfeeding duration be maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Breastfeed for >1 week, but concluded				Was breastfeeding when surveyed			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	252	19,081	31.0%	± 3.7	248	20,034	32.5%	± 3.7
Age								
<18 years	6	376	18.5%	± 15.3	3	DSU	DSU	DSU
18-19 years	22	1,561	37.9%	± 15.0	4	DSU	DSU	DSU
20-29 years	140	11,090	34.9%	± 5.3	109	8,592	27.1%	± 4.8
30-34 years	57	3,983	24.8%	± 6.7	89	7,464	46.5%	± 8.0
35-39 years	25	1,971	30.3%	± 11.2	36	2,927	45.0%	± 12.1
40+ years	2	DSU	DSU	DSU	7	431	36.3%	± 26.3
Race/Ethnicity								
White, non-Hispanic	200	14,616	30.8%	± 4.1	208	16,837	35.5%	± 4.3
Black, non-Hispanic	30	2,421	29.3%	± 10.3	16	986	11.9%	± 7.0
Hispanic	9	878	31.2%	± 18.7	12	988	35.1%	± 18.4
American Indian/Alaskan Native	0	DSU	DSU	DSU	1	DSU	DSU	DSU
Asian/ Pacific Is.	7	547	42.8%	± 26.1	5	426	33.3%	± 25.6
Other	1	DSU	DSU	DSU	0	DSU	DSU	DSU
Maternal Education								
<HS	36	3,500	30.6%	± 9.7	14	1,507	13.2%	± 7.3
HS/GED	78	5,256	29.1%	± 6.3	51	3,853	21.3%	± 5.7
Some College	75	5,175	34.2%	± 7.2	73	5,746	38.0%	± 7.6
College Graduate	57	4,677	29.4%	± 7.2	107	8,531	53.6%	± 4.0
Marital Status								
Married	173	13,312	31.1%	± 4.5	212	17,268	40.3%	± 4.7
Other	77	5,657	30.3%	± 6.6	36	2,766	14.8%	± 5.2

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #28:
Average breastfeeding duration, in weeks, among women who breastfed for longer than 1 week, but had discontinued before being surveyed, Jul-Dec 2001 MI PRAMS

	Breastfeed for >1 week, but concluded			
	Sample Frequency (n)	Estimated Frequency (N)	Average (weeks)	95% Confidence Interval
Total	252	19,081	6.9	± 0.8
Age				
<18 years	6	376	4.3	± 3.2
18-19 years	22	1,561	3.6	± 1.3
20-29 years	140	11,090	6.9	± 1.1
30-34 years	57	3,983	7.7	± 1.9
35-39 years	25	1,971	8.0	± 2.6
40+ years	2	DSU	DSU	DSU
Race/Ethnicity				
White, non-Hispanic	200	14,616	7.3	± 0.9
Black, non-Hispanic	30	2,421	5.7	± 2.2
Hispanic	9	878	5.3	± 3.7
American Indian/Alaskan Native	0	DSU	DSU	DSU
Asian/ Pacific Is.	7	547	5.9	± 3.6
Other	1	DSU	DSU	DSU
Maternal Education				
<HS	36	3,500	5.4	± 1.8
HS/GED	78	5,256	6.3	± 1.3
Some College	75	5,175	7.5	± 1.6
College Graduate	57	4,677	8.0	± 1.9
Marital Status				
Married	173	13,312	7.5	± 1.0
Other	77	5,657	5.6	± 1.3

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #29:
Barriers to breastfeeding initiation among women who did not breastfeed,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Barriers				
Other children to care for	75	5,743	27.0%	± 6.0
Too many household duties	39	3,046	14.3%	± 4.9
Did not like breastfeeding	105	8,485	40.1%	± 6.8
Mother did not want to be tied down	31	1,867	8.8%	± 3.6
Too embarrassed to breastfeed	30	2,466	11.6%	± 4.4
Had to return to work/school	63	4,919	23.1%	± 5.7
Husband/partner discouraged breastfeeding	3	DSU	DSU	DSU
Mother wanted body back	34	2,138	10.1%	± 3.9
Other	90	6,107	28.7%	± 6.1

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #30:
Barriers to breastfeeding continuation among women who had discontinued breastfeeding before being surveyed,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Barriers				
Infant had difficulty nursing	97	7,158	29.2%	± 5.6
Breast milk alone did not satisfy infant	86	7,092	28.9%	± 5.7
Thought infant was not gaining enough weight	25	1,982	8.1%	± 3.4
Infant became sick and could not nurse	12	961	3.9%	± 2.3
Nipples became sore, cracked, or bleeding	58	5,125	20.9%	± 5.2
Thought was not producing enough milk	107	7,970	32.5%	± 5.9
too many household duities	32	2,591	10.6%	± 3.9
Felt it was time to discontinue	40	2,994	12.2%	± 3.9
Mother became sick and could not nurse	24	1,804	7.4%	± 3.2
Had to return to work/school	73	5,684	23.2%	± 5.3
Husband/partner discouraged breastfeeding	3	DSU	DSU	DSU
Needed another person to feed the infant	35	2,546	10.4%	± 1.8
Other	75	5,491	22.4%	± 5.2

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #31:
Smoking status during pregnancy (compared with pre-pregnancy smoking),
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	823	62,641	100.0%	-
Smoking Status				
Nonsmoker	575	44,216	70.6%	± 3.6
Smoker who quit	93	6,018	9.6%	± 2.2
Smoker (reduced # of cigarettes)	104	8,382	13.4%	± 2.8
Smoker (# of cigarettes same or more)	49	3,763	6.0%	± 1.9
Nonsmoker who began smoking	2	DSU	DSU	DSU

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #32:
Smoking status in the last three months of pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	834	63,541	100.0%	-
Smoking Status				
Did not smoke	674	50,844	80.0%	± 3.2
Smoked	160	12,698	20.0%	± 3.3

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #33:
Smoking status in the last three months of pregnancy by maternal demographic characteristics, Jul-Dec 2001 MI PRAMS

	Did not Smoke				Smoked			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	674	50,844	80.0%	± 3.2	160	12,698	20.0%	± 3.3
Age								
<18 years	16	1,150	56.6%	± 23.3	11	880	43.4%	± 23.3
18-19 years	36	2,319	55.7%	± 15.0	24	1,844	44.3%	± 15.0
20-29 years	345	26,034	79.3%	± 4.6	81	6,808	20.7%	± 4.6
30-34 years	186	14,675	90.3%	± 4.6	22	1,569	9.7%	± 4.6
35-39 years	77	5,773	83.0%	± 9.0	17	1,182	17.0%	± 9.0
40+ years	14	894	68.3%	± 25.4	5	414	31.7%	± 25.4
Race/Ethnicity								
White, non-Hispanic	497	37,333	77.9%	± 3.9	126	10,576	22.1%	± 3.9
Black, non-Hispanic	109	7,520	84.4%	± 7.6	25	1,388	15.6%	± 7.6
Hispanic	35	3,093	93.8%	± 13.7	3	DSU	DSU	DSU
American Indian/Alaskan Native	2	DSU	DSU	DSU	0	DSU	DSU	DSU
Asian/ Pacific Is.	17	1,240	85.1%	± 18.7	2	DSU	DSU	DSU
Other	1	DSU	DSU	DSU	0	DSU	DSU	DSU
Maternal Education								
<HS	75	6,821	58.1%	± 10.2	52	4,927	41.9%	± 10.2
HS/GED	204	13,801	75.3%	± 6.1	65	4,538	24.7%	± 6.1
Some College	182	12,941	83.3%	± 5.8	33	2,590	16.7%	± 5.8
College Graduate	201	16,000	96.3%	± 2.7	9	613	3.7%	± 2.7
Medicaid Status								
Medicaid Ever*	203	15,033	65.6%	± 6.4	104	7,894	34.4%	± 6.4
Never Medicaid	467	35,613	88.1%	± 3.4	56	4,804	11.9%	± 3.4

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

*'Medicaid Ever' is defined as participating in Medicaid prior to pregnancy, having Medicaid-paid prenatal care, or Medicaid -paid delivery

Table #34:
Infant birth weight by maternal smoking status in the last three months of pregnancy,
Jul-Dec 2001 MI PRAMS

	Low Birth Weight				Normal Birth Weight			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	216	4,445	7.0%	± 0.2	162	11,662	18.4%	± 0.2
Smoking Status								
Did not smoke	169	3,494	6.9%	± 0.6	505	47,350	93.1%	± 0.6
Smoked	47	951	7.5%	± 2.2	113	11,747	92.5%	± 2.2

Jul-Dec 2001 MI PRAMS

Table #35:
Smoking status in the postpartum period
(compared with pre-pregnancy smoking),
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	824	62,725	100.0%	-
Smoking Status				
Nonsmoker	575	44,216	70.5%	± 3.6
Smoker who quit	52	3,786	6.0%	± 1.9
Smoker (reduced # of cigarettes)	69	5,223	8.3%	± 2.2
Smoker (# of cigarettes same or more)	126	9,239	14.7%	± 2.8
Nonsmoker who began smoking	2	DSU	DSU	DSU

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #36:
Smoking status in the postpartum period
(compared with pregnancy smoking),
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	830	63,404	100.0%	-
Smoking Status				
Nonsmoker	624	47,786	75.4%	± 3.5
Smoker who quit	6	588	0.9%	± 0.8
Smoker (reduced # of cigarettes)	11	998	1.6%	± 1.0
Smoker (# of cigarettes same or more)	141	11,075	17.5%	± 3.1
Nonsmoker who began smoking	48	2,956	4.7%	± 1.6

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #37:
Alcohol consumption during pregnancy
(compared with pre-pregnancy drinking),
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	824	63,057	100.0%	-
Alcohol Consumption				
Nondrinker	365	27,517	43.6%	± 3.9
Drinker who quit	421	32,581	51.7%	± 3.9
Drinker (reduced # of drinks)	24	1,909	3.0%	± 1.4
Drinker (# of drinks same or more)	13	969	1.5%	± 0.9
Nondrinker who began drinking	1	DSU	DSU	DSU

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #38:
Prevalence of infant sleep position,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	784	60,822	100.0%	-
Sleep Position				
Mostly on Side	128	9,590	15.8%	± 3.0
Mostly on Back	547	43,443	71.4%	± 3.6
Mostly on Stomach	109	7,789	12.8%	± 2.3

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #39a:
Prevalence of infant sleep position by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Mostly on Side				Mostly on Back			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	128	9,590	15.8%	± 3.0	547	43,443	71.4%	± 3.6
Age								
<18 years	6	DSU	DSU	DSU	12	1,053	51.9%	± 23.1
18-19 years	16	1,305	31.9%	± 14.7	34	2,360	57.7%	± 15.3
20-29 years	66	5,143	16.5%	± 4.2	273	21,688	69.5%	± 5.1
30-34 years	30	2,150	13.7%	± 5.5	148	11,870	75.6%	± 6.9
35-39 years	7	DSU	DSU	DSU	70	5,810	87.0%	± 7.1
40+ years	3	DSU	DSU	DSU	10	662	61.0%	± 29.1
Race/Ethnicity								
White, non-Hispanic	79	5,751	12.3%	± 2.9	440	35,160	75.2%	± 3.8
Black, non-Hispanic	36	2,725	33.5%	± 10.8	61	4,160	51.1%	± 11.2
Hispanic	3	DSU	DSU	DSU	24	2,138	75.9%	± 17.1
American Indian/Alaskan Native	1	DSU	DSU	DSU	0	DSU	DSU	DSU
Asian/ Pacific Is.	6	566	40.2%	± 25.5	9	708	50.3%	± 25.6
Other	0	DSU	DSU	DSU	1	DSU	DSU	DSU
Maternal Education								
<HS	27	2,580	23.0%	± 8.8	76	7,331	65.4%	± 9.9
HS/GED	58	3,678	20.7%	± 5.6	165	12,227	68.8%	± 6.4
Some College	26	1,853	12.4%	± 5.2	142	10,688	71.6%	± 7.0
College Graduate	17	1,479	9.3%	± 4.7	156	12,435	77.9%	± 6.5
Medicaid Status								
Medicaid Ever*	67	4,887	22.5%	± 5.8	190	14,886	68.5%	± 6.4
Never Medicaid	60	4,684	12.0%	± 3.2	357	28,557	73.1%	± 4.3

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

*'Medicaid Ever' is defined as participating in Medicaid prior to pregnancy, having Medicaid-paid prenatal care, or Medicaid -paid delivery

Table #39a:
Prevalence of infant sleep position by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Mostly on Stomach			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	109	7,789	12.8%	± 2.3
Age				
<18 years	9	485	23.9%	± 16.7
18-19 years	9	426	10.4%	± 8.6
20-29 years	60	4,395	14.1%	± 3.8
30-34 years	20	1,691	10.8%	± 4.9
35-39 years	9	580	8.7%	± 6.1
40+ years	2	DSU	DSU	DSU
Race/Ethnicity				
White, non-Hispanic	78	5,853	12.5%	± 2.9
Black, non-Hispanic	24	1,261	15.5%	± 7.2
Hispanic	5	542	19.3%	± 16.6
American Indian/Alaskan Native	0	DSU	DSU	DSU
Asian/ Pacific Is.	2	DSU	DSU	DSU
Other	0	DSU	DSU	DSU
Maternal Education				
<HS	17	1,304	11.6%	± 6.5
HS/GED	32	1,878	10.6%	± 4.1
Some College	33	2,385	16.0%	± 5.6
College Graduate	25	2,051	12.9%	± 5.1
Medicaid Status				
Medicaid Ever*	30	1,960	9.0%	± 3.9
Never Medicaid	78	5,812	14.9%	± 3.4

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

*'Medicaid Ever' is defined as participating in Medicaid prior to pregnancy, having Medicaid-paid prenatal care, or Medicaid -paid

Table #40:
Prevalence of infant co-sleeping,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	848	64,518	100.0%	-
Co-sleeping				
Infant always sleeps alone	292	23,499	36.4%	± 3.8
Infant sometimes sleeps alone	370	28,147	43.6%	± 3.9
Infant never sleeps alone	186	12,872	20.0%	± 3.1

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #41a:
Prevalence of infant co-sleeping by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Infant always sleeps alone				Infant sometimes sleeps alone			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	292	23,499	36.4%	± 3.8	370	28,147	43.6%	± 3.9
Age								
<18 years	2	DSU	DSU	DSU	18	1,355	0.6676	± 21.8
18-19 years	18	1,418	32.6%	± 14.2	29	1,915	0.4406	± 14.6
20-29 years	140	11,576	34.5%	± 5.1	195	14,797	0.4415	± 5.3
30-34 years	85	6,832	42.0%	± 7.8	89	7,021	0.4312	± 7.8
35-39 years	39	2,820	40.6%	± 11.4	35	2,698	0.388	± 11.5
40+ years	8	564	40.6%	± 25.5	4	360	0.2593	± 23.9
Race/Ethnicity								
White, non-Hispanic	247	19,995	40.9%	± 4.4	279	21,502	44.0%	± 4.4
Black, non-Hispanic	25	1,828	20.4%	± 8.6	62	4,065	45.4%	± 10.5
Hispanic	9	744	22.6%	± 14.6	15	1,397	42.3%	± 18.2
American Indian/Alaskan Native	0	DSU	DSU	DSU	0	DSU	DSU	DSU
Asian/ Pacific Is.	5	386	26.5%	± 20.9	6	434	29.8%	± 115
Other	0	DSU	DSU	DSU	1	DSU	DSU	DSU
Maternal Education								
<HS	34	3,650	30.2%	± 9.4	57	5,273	43.6%	± 10.1
HS/GED	94	7,060	37.2%	± 6.6	120	8,186	43.2%	± 6.7
Some College	84	6,407	41.3%	± 7.5	93	6,582	42.4%	± 7.5
College Graduate	75	5,971	35.9%	± 7.3	96	7,694	46.3%	± 7.6
Medicaid Status								
Medicaid Ever*	98	8,109	34.5%	± 6.3	125	9,196	39.1%	± 6.4
Never Medicaid	193	15,370	37.7%	± 4.7	244	18,934	46.4%	± 4.8

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

*'Medicaid Ever' is defined as participating in Medicaid prior to pregnancy, having Medicaid-paid prenatal care, or Medicaid -paid delivery

Table #41a:
Prevalence of infant co-sleeping by maternal demographic characteristics,
Jul-Dec 2001 MI PRAMS

	Infant never sleeps alone			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	186	12,872	20.0%	± 3.1
Age				
<18 years	7	386	19.0%	± 16.2
18-19 years	16	1,013	23.3%	± 12.4
20-29 years	99	7,142	21.3%	± 4.4
30-34 years	36	2,429	14.9%	± 5.5
35-39 years	20	1,436	20.7%	± 9.5
40+ years	8	465	33.5%	± 23.4
Race/Ethnicity				
White, non-Hispanic	109	7,346	15.0%	± 3.00
Black, non-Hispanic	49	3,058	34.2%	± 10.1
Hispanic	14	1,158	35.1%	± 17.4
American Indian/Alaskan Native	2	DSU	DSU	DSU
Asian/ Pacific Is.	8	638	43.8%	± 24.9
Other	0	DSU	DSU	DSU
Maternal Education				
<HS	41	3,175	26.2%	± 8.6
HS/GED	64	3,719	19.6%	± 5.2
Some College	38	2,543	16.4%	± 5.6
College Graduate	39	2,948	17.7%	± 5.8
Medicaid Status				
Medicaid Ever*	93	6,223	26.5%	± 5.7
Never Medicaid	91	6,488	15.9%	± 3.6

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

*'Medicaid Ever' is defined as participating in Medicaid prior to pregnancy, having Medicaid-paid prenatal care, or Medicaid -paid

Table #42:
Prevalence of physical abuse prior to pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	846	64,385	100.0%	-
Physically Abused				
No	798	61,222	95.1%	± 1.6
Yes	48	3,163	4.9%	± 1.6

Jul-Dec 2001 MI PRAMS

Table #43:
Person inflicting abuse among women abused prior to pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	48	3162.81	100%	-
Abuser				
Abused by husband/partner	34	2,280	72.1%	± 15.1
Abused by someone else	14	882	27.9%	± 15.1

Jul-Dec 2001 MI PRAMS

Table #44:
Prevalence of physical abuse during pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	845	64,372	100.0%	-
Physically Abused				
No	809	61,979	96.3%	± 1.4
Yes	36	2,393	3.7%	± 1.4

Jul-Dec 2001 MI PRAMS

Table #45:
Person inflicting abuse among women abused during pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	36	2,393	100.0%	-
Abuser				
Abused by husband/partner	26	1,642	68.6%	± 18.3
Abused by someone else	10	751	31.4%	± 18.3

Jul-Dec 2001 MI PRAMS

Table #46:
Prevalence of verbal abuse in the year prior to delivery,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	847	64,437	100.0%	-
Verbally Abused				
No	793	60,575	94.0%	± 1.8
Yes	54	3,862	6.0%	± 1.8

Jul-Dec 2001 MI PRAMS

Table #47:
Prevalence of women hearing or reading about folic acid and its benefits,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	801	61,467	100.0%	-
Heard/read about folic acid				
No	176	13,326	21.7%	± 3.3
Yes	625	48,141	78.3%	± 3.3

Jul-Dec 2001 MI PRAMS

Table #48:
Prevalence of women instructed, by a health care professional on the appropriate amount of folic acid to consume,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	796	60,786	100.0%	-
Instructed by health care professional				
No	330	25,563	42.1%	± 4.0
Yes	466	35,223	58.0%	± 4.0

Jul-Dec 2001 MI PRAMS

Table #49:
Prevalence of multivitamin consumption in the month prior to pregnancy,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	843	64,075	100.0%	-
Multivitamin Consumption				
No multivitamin	466	36,308	56.7%	± 3.8
1-3 times per week	81	6,136	9.6%	± 2.3
4-6 times per week	51	3,765	5.9%	± 1.7
Daily	245	17,867	27.9%	± 3.5

Jul-Dec 2001 MI PRAMS

Table #50:
Prevalence of folic acid awareness and/or instruction by a health care professional,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	770	59,205	100.0%	-
Awareness of folic acid/Instructed by health care professional				
Aware and instructed	427	32,713	55.3%	± 4.1
Aware, but not instructed	174	13,636	23.0%	± 3.5
Instructed, but not aware	28	2,074	3.5%	± 1.5
Neither aware not instructed	141	10,783	18.2%	± 3.2

Jul-Dec 2001 MI PRAMS

Table #51a:
Multivitamin consumption in the month prior to pregnancy by folic acid awareness and/or instruction by a health care professional,
Jul-Dec 2001 MI PRAMS

	No multivitamin				1-3 times per week			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	416	32,725	55.6%	± 4.0	75	5,588	9.5%	± 2.4
Awareness of folic acid/Instructed by health care professional								
Aware and instructed	202	15,849	49.0%	± 5.5	38	5,418	8.5%	± 3.0
Aware, but not instructed	100	7,919	58.1%	± 8.4	23	1,717	12.6%	± 5.5
Instructed, but not aware	18	1,423	68.6%	± 19.3	2	DSU	DSU	DSU
Neither aware not instructed	96	7,535	69.9%	± 8.7	12	1,070	9.9%	± 6.1

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #51b:
Multivitamin consumption in the month prior to pregnancy by folic acid awareness and/or instruction by a health care professional,
Jul-Dec 2001 MI PRAMS

	4-6 times per week				Daily			
	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total	46	3,426	5.8%	± 1.8	229	17,106	29.1%	± 3.7
Awareness of folic acid/Instructed by health care professional								
Aware and instructed	26	2,038	6.3%	± 2.6	157	11,700	36.2%	± 5.3
Aware, but not instructed	14	876	6.4%	± 3.7	37	3,124	22.9%	± 7.2
Instructed, but not aware	2	DSU	DSU	DSU	6	402	19.4%	± 15.8
Neither aware not instructed	4	DSU	DSU	DSU	29	1,880	17.4%	± 6.8

Jul-Dec 2001 MI PRAMS

DSU: data statistically unreliable

Table #52:
Prevalence of WIC participation during pregnancy among income eligible women,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total*	346	25,462	100.0%	-
WIC Participation During Pregnancy				
No	76	5,926	23.3%	± 5.4
Yes	270	19,536	76.7%	± 5.4

Jul-Dec 2001 MI PRAMS

* Total = number of women found to be income eligible for WIC. Women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federal income assistance were classified as being income eligible for WIC.

Table #53:
Prevalence of WIC participation postpartum among income eligible women,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Total*	341	25,081	100.0%	-
WIC Participation Postpartum				
Mother only	4	DSU	DSU	DSU
Infant only	88	6,895	27.5%	± 5.8
Mother and infant	210	14,583	58.1%	± 6.3
Neither mother and infant	39	3,352	13.4%	± 4.5

Jul-Dec 2001 MI PRAMS

* Total = number of women found to be income eligible for WIC. Women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federal income assistance were classified as being income eligible for WIC.

Table #54:
Reason for nonpaticipation among income eligible women, whose infant did not participate in WIC,
Jul-Dec 2001 MI PRAMS

	Sample Frequency (n)	Estimated Frequency (N)	Percent (%)	95% Confidence Interval
Reasons				
Infant not eligible	3	DSU	DSU	DSU
Unaware of WIC	4	DSU	DSU	DSU
Did not want to enroll infant	8	734	26.6%	± 17.9
Other	15	1,254	45.5%	± 19.6

Jul-Dec 2001 MI PRAMS

Analysis restricted to women who were found to be income eligible for WIC **and** whose infant did not participate in WIC. Women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federal income assistance were classified as being income eligible for WIC.